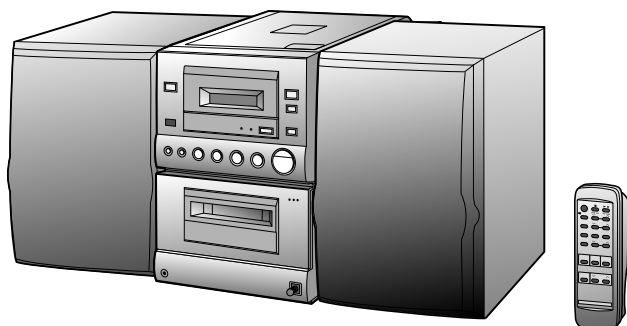


SHARP SERVICE MANUAL

No. S0780XL520W//



XL-520W CP-520



XL-520W and CP-520 constitute XL-520W.

• In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified should be used.

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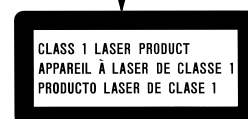
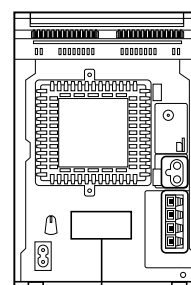
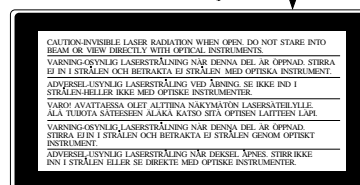
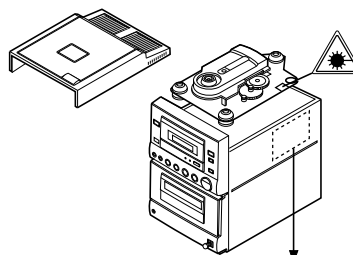
SAFETY PRECAUTION FOR SERVICE MANUAL

Precaution to be taken when replacing and servicing the Laser Pickup.

The AEL (Accessible Emission Level) of Laser Power Output for this model is specified to be lower than Class I Requirements. However, the following precautions must be observed during servicing to protect your eyes against exposure to the Laser beam

- (1) When the cabinet has been removed, the power is turned on without a compact disc, and the Pickup is on a position outer than the lead-in position, the Laser will light for several seconds to detect a disc. Do not look into the Pickup Lens.
- (2) The Laser Power Output of the Pickup inside the unit and replacement service parts have already been adjusted prior to shipping.
- (3) No adjustment to the Laser Power should be attempted when replacing or servicing the Pickup.
- (4) Under no circumstances look directly into the Pickup Lens at any time.
- (5) CAUTION - Use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Laaser Diode Properties
Material: GaAlAs
Wavelength: 780 nm
Emission Duration: continuous
Laser Output: max. 0.6 mW



FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT, PLEASE REFER
TO THE OPERATION MANUAL.

SPECIFICATIONS

XL-520W

● General

Power source: AC110/127/220/230-240 V, 50/60 Hz
Power consumption: 98 W
Dimensions: Width; 160 mm (6-5/16")
Height; 240 mm (9-1/2")
Depth; 300 mm (11-13/16")
3.7 kg (8.2 lbs.)

Weight:

● Amplifier section

Output power: PMPO; 320 W (total)
MPO; 56 W (28 W + 28 W) (10% T.H.D)
RMS; 40 W (20 W + 20 W) (10% T.H.D)
Input terminals: Video/Auxiliary (audio signal);
500 mV/47 kohms
Output terminals: Speakers; 4 ohms
Headphones; 16-50 ohms
(recommended; 32 ohms)

● Tuner section

Frequency range: FM; 88 - 108 MHz
AM; 531 - 1,602 kHz

● Compact disc player section

Type: Compact disc player
Signal readout: Non-contact, 3-beam semi-conductor
laser pickup
D/A Converter: 1-bit D/A converter
Filter: 8-times oversampling digital filter
Frequency response: 20 - 20,000 Hz
Wow and flutter: Unmeasurable
(less than 0.001% W.peak)

● Cassette deck section

Frequency response: 50 - 14,000 Hz (Normal tape)
Signal/noise ratio: 50 dB
Wow and flutter: 0.25 % (WRMS)

CP-520

Type: 2-way [12 cm (4-3/4") woofer and 2 cm
(13/16") tweeter]
Rated input power: 20 W
Maximum input power: 40 W
Impedance: 4 ohms
Dimensions: Width; 160 mm (6-5/16")
Height; 240 mm (9-1/2")
Depth; 183 mm (7-1/4")
Weight: 1.8 kg (4.0 lbs.)/each

Specifications for this model are subject to change without
prior notice.

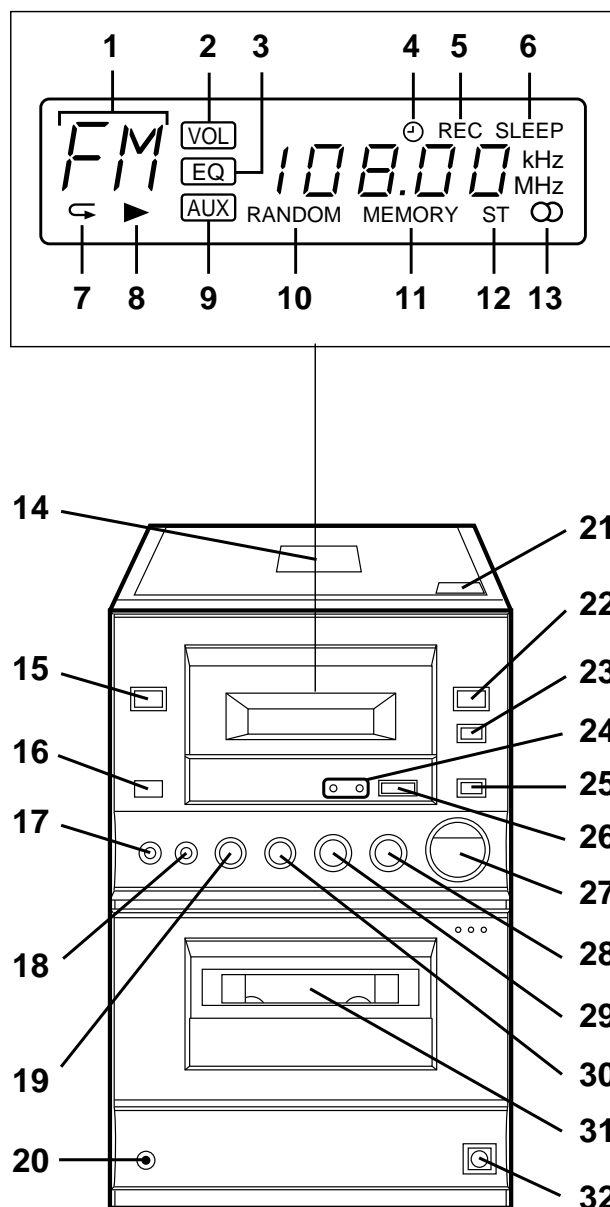
NAMES OF PARTS

XL-520W

■ Front Panel

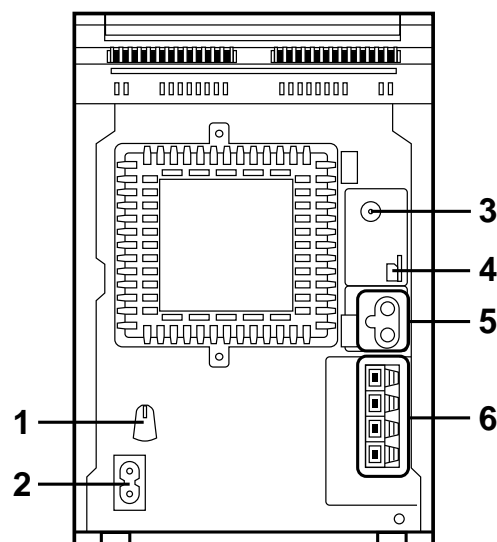
1. Function/Band/Track Number Indicator
2. Volume Indicator
3. Extra Bass/Equalizer Indicator
4. Timer Indicator
5. Record Indicator
6. Sleep Indicator
7. Repeat Indicator
8. Play Indicator
9. Video/Auxiliary Indicator
10. Random Indicator
11. Memory Indicator
12. FM Stereo Mode Indicator
13. FM Stereo Indicator

14. CD Compartment
15. On/Stand-by Switch
16. Remote Control Sensor
17. Record Pause/Beat Cancel Button
18. Memory/Set Button
19. (CD) Track Down/Review Button
(TAPE) Rewind Button
(TUNER) Preset Down Button
20. Headphone Socket
21. CD Eject Button
22. Function Selector Button
23. Band Selector Button
24. 3D Surround Mode Indicators
25. Extra Bass/Equalizer Mode Button
26. 3D Surround Mode Button
27. Volume Up/Down Buttons
28. (CD) Play/Pause Button
(TAPE) Play Button
(TUNER) Tuning Up Button
29. (CD/TAPE) Stop Button
(TUNER) Clear Button
30. (CD) Track Up/Cue Button
(TAPE) Fast Forward Button
(TUNER) Preset Up Button
31. Cassette Compartment
32. CD Digital Output Socket (Optical)



■ Rear Panel

1. AC Voltage Selector
2. AC Power Input Socket
3. FM 75 ohms Aerial Socket
4. AM Loop Aerial Input Socket
5. Video/Auxiliary (Audio Signal) Input Sockets
6. Speaker Terminals

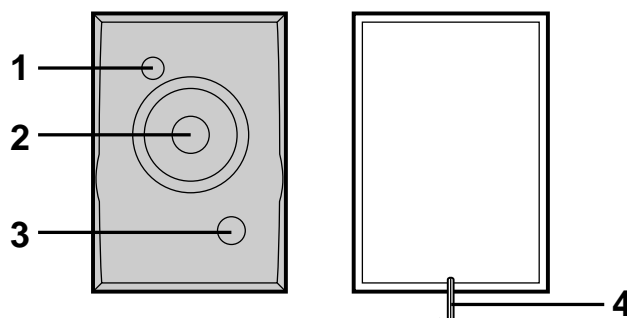


XL-520W/CP-520

CP-520

■ Speaker Section

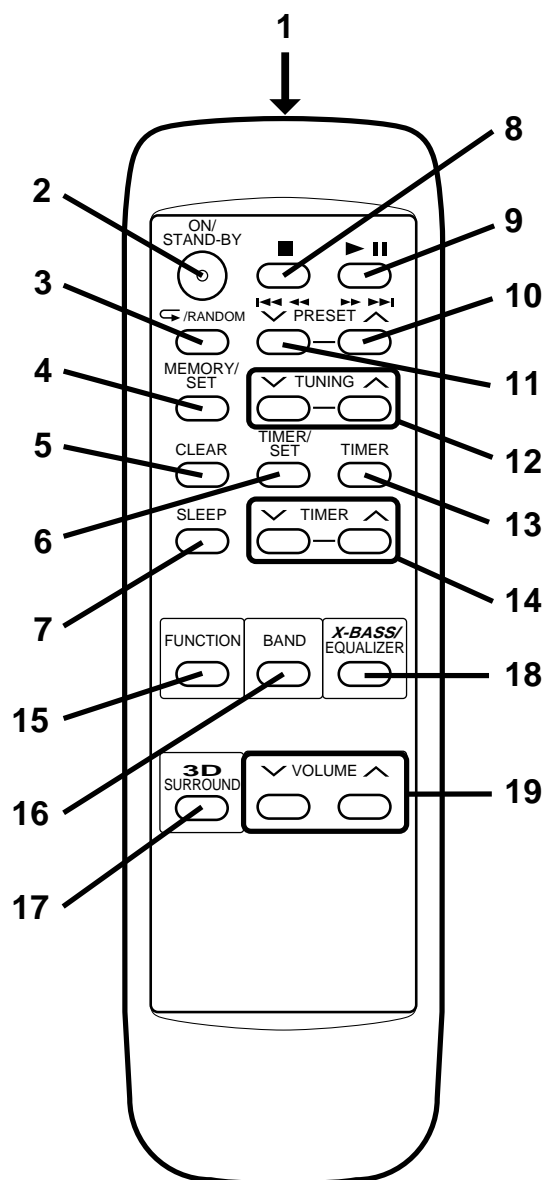
1. Tweeter
2. Woofer
3. Bass Reflex Duct
4. Speaker Wire



XL-520W

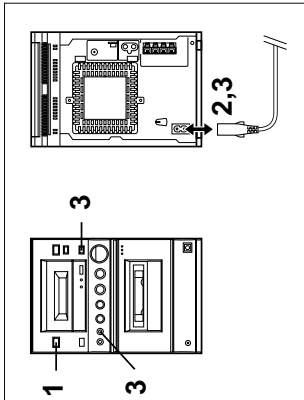
■ Remote Control

1. Remote Control Transmitter LED
2. On/Stand-by Button
3. (CD) Repeat/Random Button
4. (CD/TUNER) Memory/Set Button
5. (CD/TUNER) Clear Button
6. Timer/Set Button
7. Sleep Button
8. (CD/TAPE) Stop Button
9. (CD) Play/Pause Button
10. (CD) Track Up/Cue Button
11. (CD) Track Down/Review Button
12. Tuning Up/Down Buttons
13. Timer Button
14. Timer Up/Down Buttons
15. Function Selector Button
16. Band Selector Button
17. 3D Surround Mode button
18. Extra Bass/Equalizer Mode Button
19. Volume Up/Down Buttons



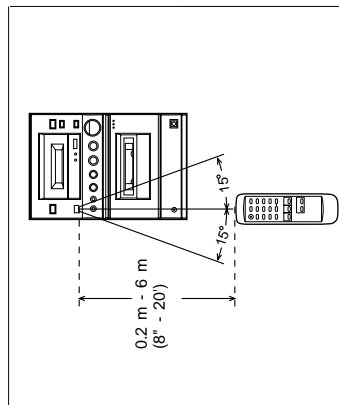
OPERATION MANUAL

RESETTING THE MICROCOMPUTER



- Reset the microcomputer under the following conditions:
- To erase all of the stored memory contents (clock and timer settings, tuner and CD presets).
 - If the display is not correct.
 - If the operation is not correct.
- 1 Press the ON/STAND-BY button to enter the stand-by mode.
 - 2 Unplug the AC power lead from the AC INPUT socket on this unit.
 - 3 Whilst pressing down the MEMORY/SET button and the X-BASSEQUALIZER button, plug the AC power lead into the AC INPUT socket on this unit.
- Caution:**
- The operation explained above will erase all data stored in memory, such as clock and timer settings, tuner and CD presets.

PREPARATION FOR USE



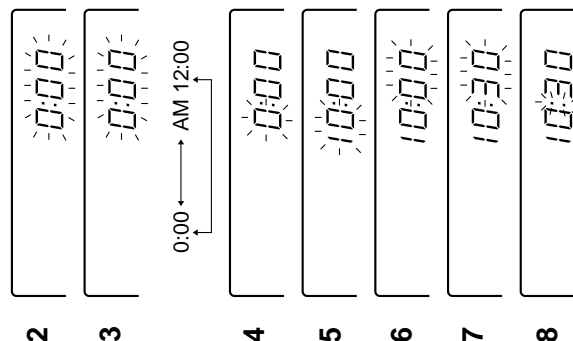
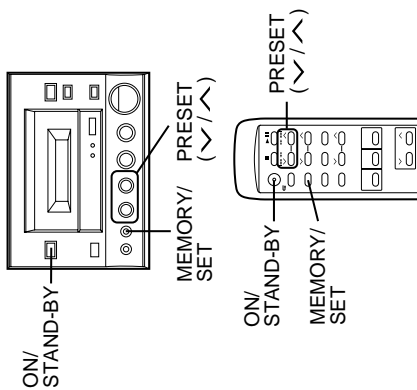
Remote control

Notes concerning use:

- Replace the batteries if control distance decreases or operation becomes erratic.
- Periodically clean the transmitter LED on the remote control and the sensor on the main unit with a soft cloth.
- Exposing the sensor on the main unit to strong light may interfere with operation. Change the lighting or the direction of the unit.
- Keep the remote control away from moisture, excessive heat, shock, and vibrations.

SETTING THE CLOCK

In this example, the clock is set for the 24-hour (0:00) system.



- 1 Press the ON/STAND-BY button to enter the stand-by mode.
- 2 Press the MEMORY/SET button.
- 3 Press the PRESET (V/Λ) button to select the time display mode.
"0:00" → The 24-hour display will appear.
"AM 12:00" → The 12-hour display will appear.
(AM 12:00 - PM 11:59)
- Note that this can only be set when the unit is first installed or it has been reset (see page 6).
- 4 Press the MEMORY/SET button.
- 5 Press the PRESET (V/Λ) button to adjust the hour.
- Press the PRESET button once to advance the time by 1 hour. Hold it down to advance continuously.
- When the 12-hour display is selected, "AM" will change automatically to "PM".
- 6 Press the MEMORY/SET button.
- 7 Press the PRESET (V/Λ) button to adjust the minutes.
- Press the PRESET button once to advance the time by 1 minute. Hold it down to change the time in 5 minute intervals.
- The hour setting will not advance even if minutes advance from "59" to "00".
- 8 Press the MEMORY/SET button.
- The clock starts operating from "0" seconds. (Seconds are not displayed.)

Note:

- In the event of a power failure or when the AC power lead is disconnected, the clock display will go out. When the AC power supply is restored, the clock display will flash on and off to indicate the time when the power failure occurred or when the AC power lead was disconnected. If this happens, follow the procedure below to change the clock time.

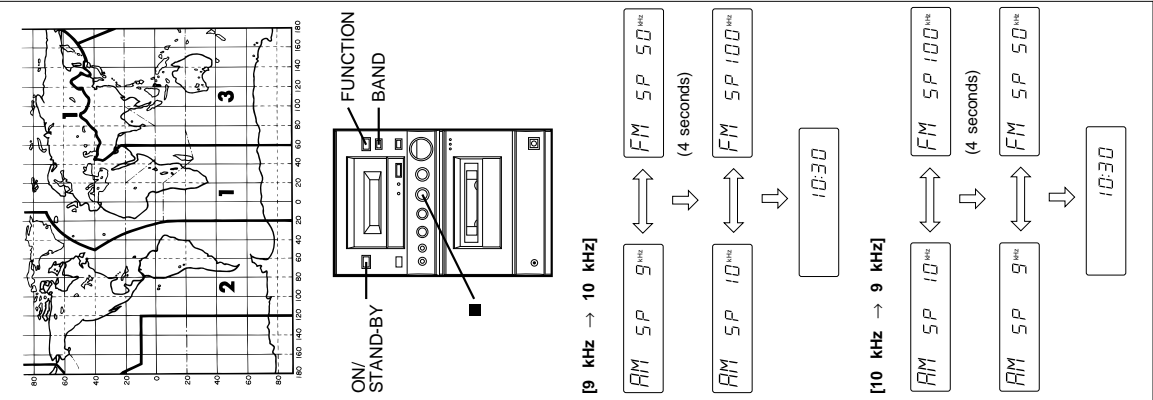
To change the clock time:

- 1 Press the ON/STAND-BY button to enter the stand-by mode.
- 2 Perform steps 4 - 8 above.

To change the time display mode:

- 1 Perform steps 1 - 3 in the section "RESETTING THE MICROCOMPUTER", on page 6.
- 2 Perform steps 1 - 8 above.

(Continued)



■ AM/FM interval (span)

The International Telecommunication Union (ITU) has established that member countries should maintain either a 10 kHz or a 9 kHz interval between broadcasting frequencies of any AM station. The illustration shows the 9 kHz interval zones (regions 1 and 3), and the 10 kHz interval zone (region 2).

This product is not equipped with a span selector. However, it will be adjusted to 9 kHz AM interval (50 kHz FM interval) when shipped from the factory. Before using the unit, be sure to set it for the AM tuning interval (span) used in your area.

To check the tuning span currently selected:

- 1 Press the ON/STAND-BY button to turn the power on.
 - 2 Press the FUNCTION button until "FM" or "AM" appears in the display.
 - 3 Press the BAND button to select the AM band.
- If "AM 531 kHz" is displayed, it means that the radio has been adjusted for a 9 kHz span. If "AM 530 kHz" is displayed, it means that the radio has been adjusted for a 10 kHz span.

To change from a 9 kHz AM (50 kHz FM) interval to a 10 kHz AM (100 kHz FM) interval:

- 1 Press the ON/STAND-BY button to enter the stand-by mode.
 - 2 Hold down the BAND button and the button for at least 4 seconds. Release the buttons when "AM SP 10 kHz" and "FM SP 100 kHz" are displayed alternately.
- The unit will return to the clock display.

To return to a 9 kHz AM (50 kHz FM) interval:

- 1 Press the ON/STAND-BY button to enter the stand-by mode.
 - 2 Hold down the BAND button and the button for at least 4 seconds. Release the buttons when "AM SP 9 kHz" and "FM SP 50 kHz" are displayed alternately.
- The unit will return to the clock display.

Cautions:

- When the unit is left for approximately 14 hours after the span has been switched and AC power lead disconnected, it will be automatically returned to a 9 kHz span. If this happens, set the span again.
- When the span is switched, any stations that are memorised will be cancelled.

DISASSEMBLY

Caution on Disassembly

Follow the below-mentioned notes when disassembling the unit and reassembling it, to keep it safe and ensure excellent performance:

1. Take cassette tape and compact disc out of the unit.
2. Be sure to remove the power supply plug from the wall outlet before starting to disassemble the unit.
3. Take off nylon bands or wire holders where they need be removed when disassembling the unit. After servicing the unit, be sure to rearrange the leads where they were before disassembling.
4. Take sufficient care on static electricity of integrated circuits and other circuits when servicing.

XL-520W

STEP	REMOVAL	PROCEDURE	FIGURE
1	Top Cabinet	1. Screw (A1) x4 2. Socket (A2) x3 3. Screw (A3) x1	7-1
2	Side Panel (Left/Right)	1. Screw (B1) x7	7-1
3	Back Board (With Power Amp. PWB)	1. Screw (C1) x4 2. Socket (C2) x2 3. Flat Wire (C3) x1	7-1
4	Main PWB	1. Screw (D1) x3 2. Socket (D2) x2	7-2
5	Front Panel	1. Screw (E1) x2	7-2
6	Display PWB/ CD Servo PWB	1. Screw (F1) x6 2. Socket (F2) x2	7-2
7	Power Supply PWB	1. Screw (G1) x5	7-2
8	Jack PWB	1. Screw (H1) x1	7-3
9	Tape Mechanism	1. Screw (J1) x4	7-3
10	CD Mechanism	1. Screw (K1) x3	7-4

CP-520

STEP	REMOVAL	PROCEDURE	FIGURE
1	Woofer	1. Net (A1) x1 3. Screw (A2) x4	7-5

CP-520

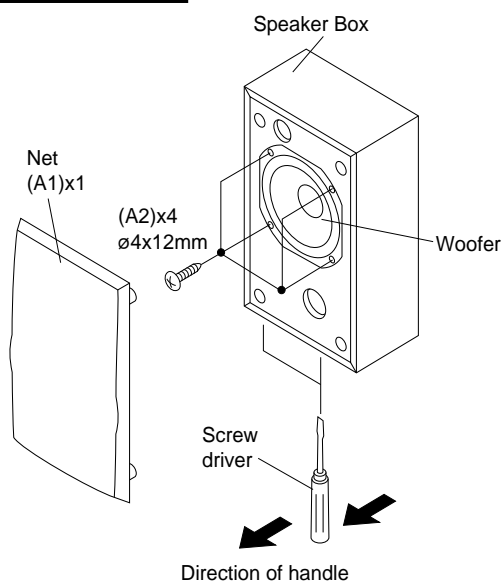


Figure 7-5

XL-520W

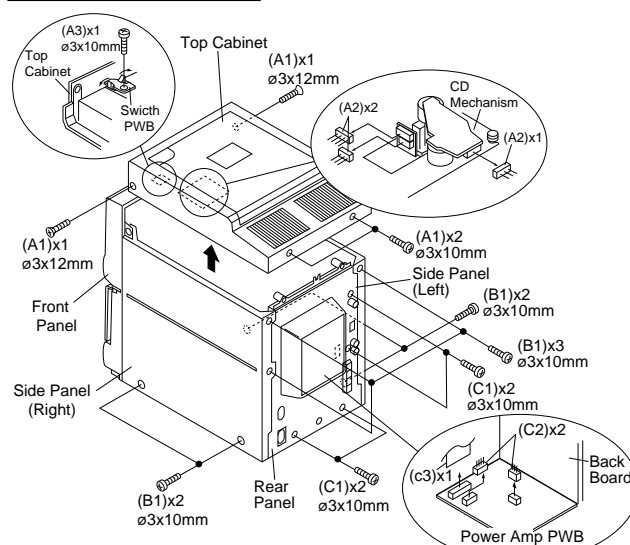


Figure 7-1

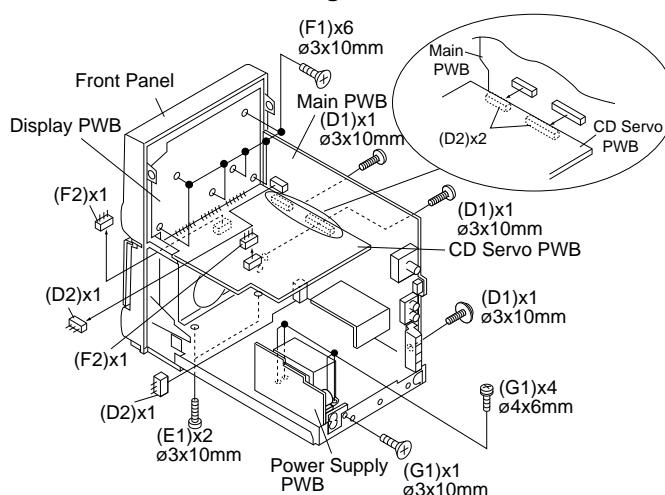


Figure 7-2

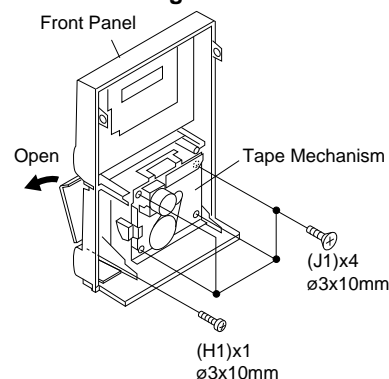


Figure 7-3

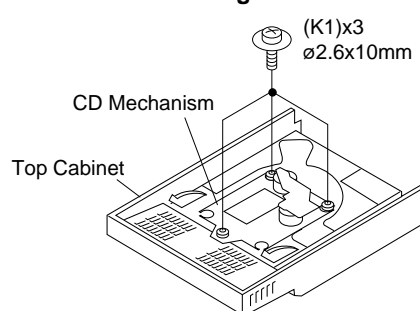


Figure 7-4

REMOVING AND REINSTALLING THE MAIN PARTS

CD MECHANISM SECTION

Perform steps 1, to 5 of the disassembly method to remove the CD mechanism.

How to remove the pickup (See Fig. 8)

1. Remove the mechanism cover, paying attention to the pawls (A1) x 4 pcs.
2. Remove the screws (A2) x 2 pcs., to remove the shaft (A3) x 1 pc.
3. Remove the stop washer (A4) x 1 pc., to remove the gear (A5) x 1 pc.
4. Remove the pickup.

Note:

After removing the optical pickup connector wrap the front end of connector in conductive aluminium foil so as to prevent damage of optical pickup by static electricity.

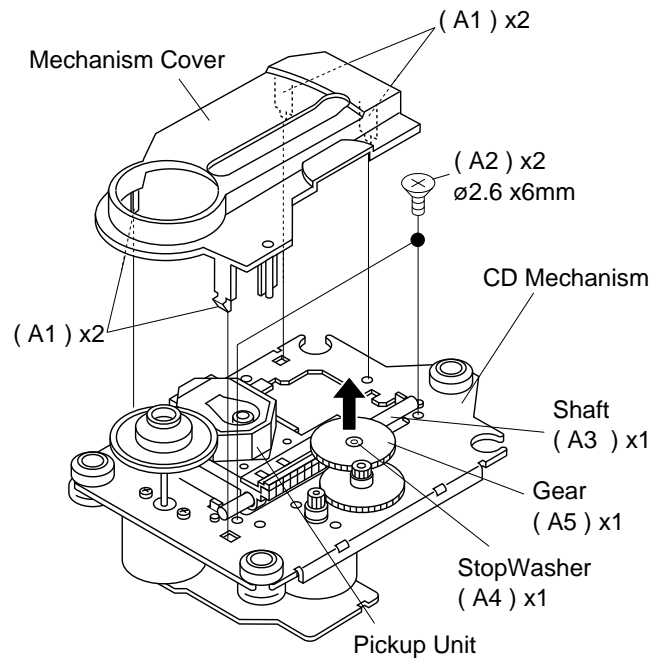


Figure 8

ADJUSTMENT

MECHANISM SECTION

• Driving Force Check

Torque Meter	Specified Value
Play: TW-2412	Over 80 g

• Torque Check

Torque Meter	Specified Value
Play: TW-2111	30 to 70 g. cm
Fast forward: TW-2231	50 to 140 g.cm
Rewind: TW-2231	50 to 140 g.cm

• Tape Speed

Test Tape	Adjusting Point	Specified Value	Instrument Connection
MTT-111	Motor	3,000 ± 90 Hz	Headphone Socket

TAPE MECHANISM

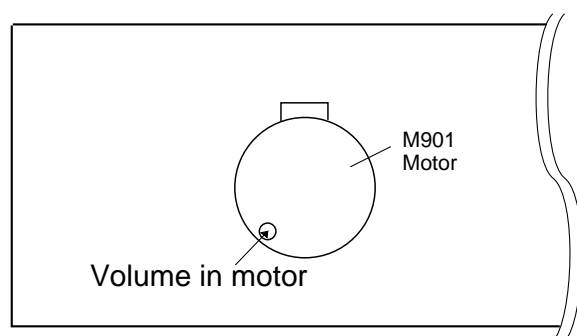


Figure 9-1 ADJUSTMENT POINT

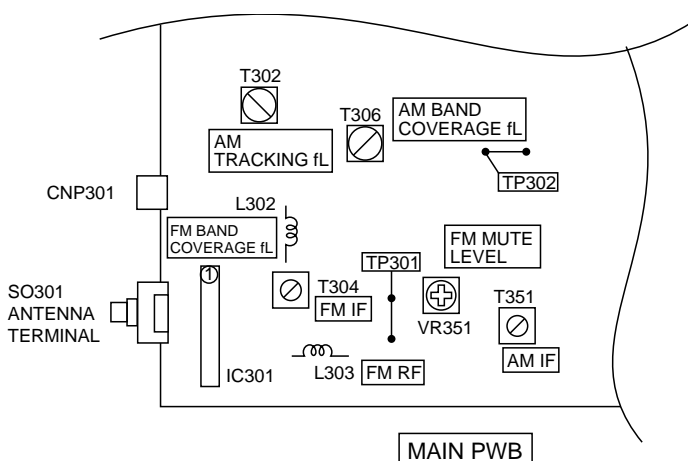


Figure 9-2 ADJUSTMENT POINTS

TUNER SECTION

fL: Low-range frequency

fH: High-range frequency

• FM RF

Signal generator: 1 kHz, 75 kHz dev., FM modulated

Test Stage	Frequency	Frequency Display	Setting/ Adjusting Parts	Instrument Connection
Band Coverage	—	87.50 MHz	(fL): L303 3.4 ± 0.1 V	*1
RF	98.00 MHz (10-30 dB)	98.00 MHz	L302	*2

*1. Input: Antenna, Output: TP301

*2. Input: Antenna, Output: Speaker Terminal

• Detection

Signal generator: 10.7 MHz, FM sweep generator

Test Stage	Frequency	Frequency Display	Setting/ Adjusting Parts	Instrument Connection
IF	10.7 MHz	98.00 MHz	T304(Turn the core of T304 fully counter-clockwise.	Input: Pin 1 of IC301 Output: TP302

• AM IF/RF

Signal generator: 400 Hz, 30%, AM modulated

Test Stage	Frequency	Frequency Display	Setting/ Adjusting Parts	Instrument Connection
IF	450 kHz	1,602 kHz	T351	*1
Band Coverage	—	531 kHz	(fL): T306 1.1 ± 0.1 V	*2
Tracking	990 kHz	990 kHz	(fL): T302	*1

*1. Input: Antenna, Output: Speaker Terminal

*2. Input: Input is not connected, Output: TP301

• Setting the Test Mode

Keeping the BAND button and MEMORY button pressed, turn on POWER. Then, the frequency is initially set in the memory as shown in Table. Call it with the ◀◀, ▶▶ button to use it for adjustment and check of tuner circuit.

Preset No.	FM	Preset No.	AM
1	87.50 MHz	6	531 kHz
2	108.00 MHz	7	1,602 kHz
3	98.00 MHz	8	990 kHz
4	90.00 MHz	9	603 kHz
5	106.00 MHz	10	1,404 kHz
11~40	—		

• FM Mute Level

Signal generator: 1 kHz, 40 kHz dev., FM modulated

Frequency	Display	Adjusting Parts	Instrument Connection
98.00 MHz (25 dBμV)	98.00 MHz	VR351*	Input: SO301 Output: Speaker Terminal

*Adjust so that an output signal appears.

CD SECTION

1. This CD unit need adjustment as follow.

CD Test Mode	Adjustment Part	Value/Adjusting Method	Instrument Connection
Step 1	VR803 (Focus Offset)	DC + 40 mV (FEI>VRO)	FEI (R826) and VRO (1-Pin of TP801)
Step 4	VR802 (Tracking Error Balance)	*1 (See Fig. 9-2)	TSO (3-Pin of TP801) and VRO (1 Pin of TP801)

*1: Adjust to obtain vertically symmetrical waveform (Fig. 10-2) with respect to reference DC level. The reference level is VRO (Approx DC 2.1V).

2. This CD unit have the following automatic adjustment function. Automatic adjustment item.

- 2-1: Focus Servo Gain (Fig. 10-3)
Focus Gain Adjustment is performed when disc is changed.
- 2-2: Tracking Servo Gain (Fig. 10-4)
Tracking Gain Adjustment is performed when disc is changed and disc is playedback.

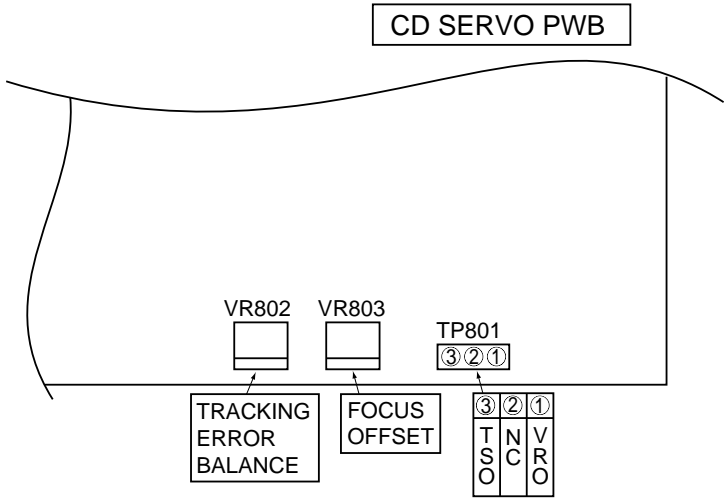


Figure 10-1 ADJUSTMENT POINTS

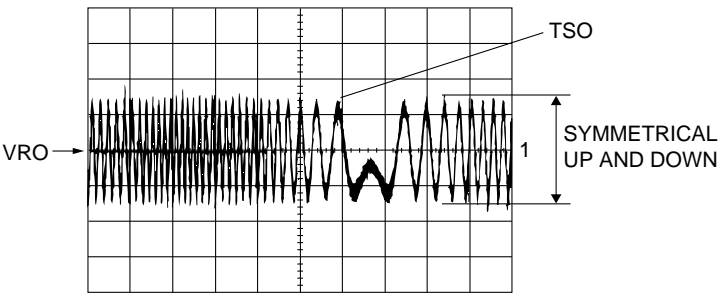


Figure 10-2

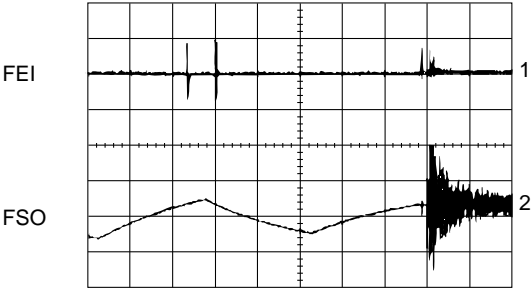


Figure 10-3

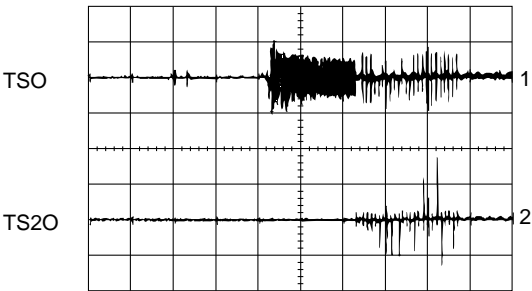


Figure 10-4

TEST MODE

The Test Mode for this microcomputer has two variations, namely "regular Test Mode" for adjustment and measurement and "self-diagnosis Test Mode" for self-judgment in final inspection of products.

1. Entering the Test Mode

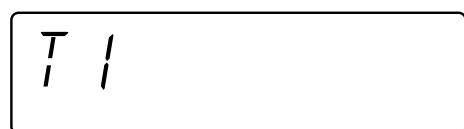
To enter the each Test Mode, press the POWER key, holding down the following two keys in the regular standby mode (power off state). In this case only the main unit keys are valid. The Test Mode is not set even when the remote controller POWER key is turned on.

[Regular Test Mode]	[Holding Down Keys]
1. CD Test Mode (TEST 1).....	Stop + Play
2. Tuner Test Mode (TEST 3).....	Memory/Set + Band Selector
3. Electronic volume Test Mode (TEST 4).....	Stop + Extra Bass/Equalizer Mode
4. Timer Test Mode (TEST 5).....	Fast Forward + Function Selector
5. LCD Test Mode (TEST 6).....	Memory/Set + Function Selector
[Self-diagnosis Test Mode]	
1. Key input diagnosis TEST Mode (TESTA).....	Play + Record Pause

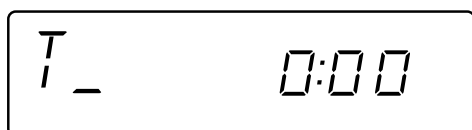
2. CD Test Mode (TEST 1)

1. Step 1 Mode

When the CD Test Mode is set, the following display lights, and the CD pickup slides to the innermost periphery.



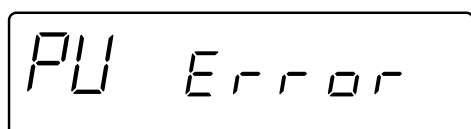
After lighting for 1.5 sec



When the following operation key is pressed in this state, the following operation is performed.

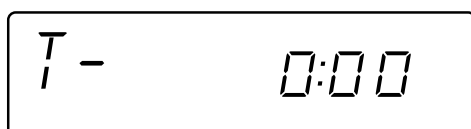
"POWER"	The Test Mode is set to off, power is turned off, and the mode is changed to the regular standby mode.
"FF/FWD"	After the pickup returns once to the innermost periphery, the pickup slides to the external periphery while this key is held down.
"REW/REV"	After the pickup returns once to the innermost periphery, the pickup slides to the internal periphery while this key is held down. However, input is invalid if PU-IN is on.
"PLAY"	Shift to Step 2
"STOP"	Invalid

* In case of mode entry the pickup is moved to the internal periphery. At this time entry of any key other than POWER key is disabled until shift of pickup to the internal periphery is completed. If PU-IN SW ON cannot be detected while waiting for 10 seconds, the slide motor is stopped, the following error is displayed, and entry of any key other than POWER key is disabled.



2. Step 2 Mode

When the PLAY key is pressed in the mode above, the laser lighting is turned on. In this state the laser is only turned on, and other operations are not performed.



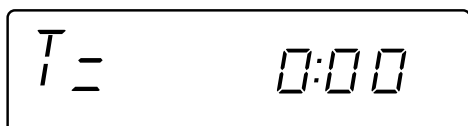
XL-520W/CP-520

When the following operation key is pressed in this state, the following operation is performed.

"POWER" The Test Mode is set to off, power is turned off, and the mode is changed to the regular standby mode.
"FF/FWD" While this key is held down, the pickup slides to the external periphery.
"REW/REV" While this key is held down, the pickup slides to the internal periphery. However, if PU-IN is on, entry is invalid.
"PLAY" Shift to Step 3
"STOP" Return to Step 1

3. Step 3 Mode

While the laser is lighting, the focus servo is turned on, and focus search is performed. If focusing failure occurs, focus search is repeated until focusing is attained.

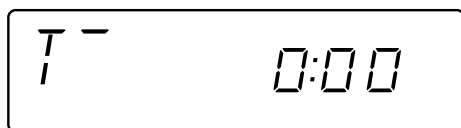


When the following operation keys are pressed in this state, the following operations are performed.

"POWER" The Test Mode is set to off, power is turned off, and the mode is changed to the regular standby mode.
"FF/FWD" While this key is held down, the pickup slides to the external periphery.
"REW/REV" While this key is held down, the pickup slides to the internal periphery. However, if PU-IN is on, entry is invalid.
"PLAY" If focusing has been attained, the process proceeds to Step 4. Unless focusing has been attained, reception is inhibited.
"STOP" Return to Step 1

4. Step 4 Mode

The disc is rotated and CLV is locked while the tracking servo is off.



The time display indicates always "0:00".

When the following operation keys are pressed in this state, the following operations are performed.

"POWER" The Test Mode is set to off, power is turned off, and the mode is changed to the regular standby mode.
"FF/FWD" While this key is held down, the pickup slides to the external periphery.
"REW/REV" While this key is pressed, the pickup slides to the internal periphery. However, if PU-IN is on, entry is invalid.
"PLAY" Shift to Step 5
"STOP" Return to Step 1

5. Step 5 Mode

The tracking servo is turned on, groove is traced, mute is set to off, and playback is started. Even when the outermost periphery of disc is reached in playback mode, it does not stop. The LCD display indicates playback lapse time as in case of regular CD playback.



When the following operation keys are pressed in this state, the following operations are performed.

"POWER" The Test Mode is set to off, power is turned off, and the mode is changed to the regular standby mode.
 "FF/FWD" While this key is held down, the pickup slides to the external periphery.
 "REW/REV" While this key is held down, the pickup slides to the internal periphery. However, if PU-IN is on, entry is invalid.
 "PLAY" Invalid
 "STOP" Return to Step 1

Other cautions

- While the CD lid OPEN is detected, entry into any step later than Step 2 is disabled. If CD lid OPEN is detected in any step higher than Step 2, return to Step 1 is done.
- TOC IL is not performed in the Test Mode.
- The key operation, excepting that specified above, is the same as that of regular operation (CD). Only the FUNCTION key is input-inhibited.
- Syncro REC with REC key input is also invalid in this mode.

3. Tuner Test Mode (TEST 3)

1. Outline of tuner (radio) Test Mode

The tuner Test Mode is intended to store adjustment/measurement frequency in the preset memory CH without frequency adjustment by the adjusting personnel when the tuner is adjusted in the production line.

2. Details of tuner Test Mode

When power is turned on with the POWER key while the MEMORY/SET key and BAND key are held down together in POWER OFF state, the frequency for adjustment/measurement of specific destination specified by the AREA terminal is preset-stored in the preset memory CH (the frequency to be preset-stored for specific destination is explained in the Item C). When the tuner Test Mode is started up, it is started with FM. FM is FM STEREO only.

When the REW key is pressed while the preset memory CH is 1CH, the highest CH is found as in case of regular mode. When the FF key is pressed while the preset memory CH is highest CH, 1CH is found.

The RADIO (TUNER) BAND key (or TUNER/BAND key on the remote controller) is valid.

As in case of regular mode, selection of band, FM MONO/STEREO mode is enabled by pressing the RADIO (TUNER) BAND (or TUNER/BAND) key.

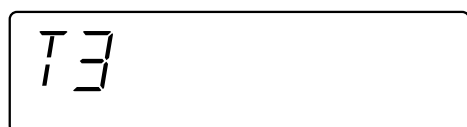
Exiting the tuner Test Mode, When the destruction data is stored in the memory in the tuner Test Mode, AC supply is interrupted in the Test Mode and the AC supply is recovered, all the memory is cleared with the destruction data in case of start-up.

(Countermeasures so that the Test Mode memory does not remain when AC supply is restored after power supply failure occurred once in the Test Mode.) The memory is not cleared when AC supply is turned off after POWER OFF.

FUNCTIONkey is not accepted in the tuner test mode. In case of exit from the tuner Test Mode through the backup mode upon occurrence of power failure the frequency data stored in the preset memory for adjustment/measurement is erased. (As a result the preset memory CH becomes empty.)

The display indication is the same as that in case of regular operation.

The following display lights for one second when the tuner TEST mode is turned on



XL-520W/CP-520

Test Mode operation specification

3. Preset frequencies for various destinations (random preset memory)

BAND (CH)	10 kHz SPAN	BAND (CH)	100 kHz SPAN
1	FM 87.5MHz	1	FM 87.5MHz
2	FM 108.0MHz	2	FM 108.0MHz
3	FM 98.0MHz	3	FM 98.0MHz
4	FM 90.0MHz	4	FM 90.0MHz
5	FM 106.0MHz	5	FM 106.0MHz
BAND (CH)	9 kHz SPAN	BAND (CH)	10 kHz SPAN
6	AM 531 kHz	6	AM 530 kHz
7	AM 1,602 kHz	7	AM 1,620 kHz
8	AM 990 kHz	8	AM 990 kHz
9	AM 603 kHz	9	AM 600 kHz
10	AM 1,404 kHz	10	AM 1,400 kHz

- The unit used in the table above is Hz. K represents 1,000 times, and M represents 1,000,000 times.
- The hatched data shown in the table are not stored in the memory.
- FM is stereo mode.

Note: Keys which are effective in Test Mode

- Main unit keys: VOLUME UP/DOWN, BAND, TUNING UP, POWER, MEMORY, CLEAR, PRESET UP/DOWN
- Remote controller keys: VOL UP/DOWN, BAND, TUNING UP/DOWN, POWER, MEMORY, CLEAR, PRESET UP/DOWN

4. Electronic volume Test Mode (TEST 4)

After the Test Mode is set, the following display lights for one second.

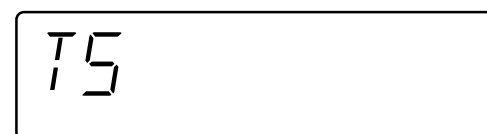


When this mode has been set, -14dB (STEP17) is set, the preset equalizer is set to FLAT (EQ-3), the SRS mode is set to OFF, and the start-up function is set to Tape.

1. The display is the same as that indicated in case of regular operation excepting when Test Mode is set.
2. The volume control with the Volume UP/DOWN key is only the following 3 steps, differing from the volume control in the regular operation mode.
Volume — ∞ (STEP 0) ↔ Volume — 14dB (STEP 17) ↔ Volume — 0 (STEP 24)
3. The preset equalizer and SRS are switched if key operation is performed.

5. Timer Test Mode (TEST 5)

When the Test Mode is set, the following display lights for one second.



The current time and timer time are set in the following procedure, and timer playback is performed.

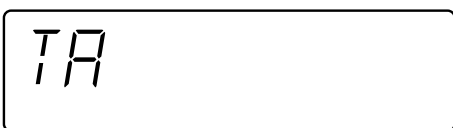
1. The present time is set to 1:00, the timer is set to ON time 1:02, OFF time 1:12, Function is set to Tape, Volume is set to STEP8. One minute is counted in increments of second, and timer playback is performed. One step of Fade-in/out in this mode is performed for 0.5 sec.
The display is the same as that appears in the regular timer operation.
2. After completion of timer playback test "TEST-5" indication (which appears when the mode is set) appears again and Standby state is set. PLAY key entry is waited. If an entry is detected, the SLEEP timer is set to 2 minutes, and Function is set to Tape, so that playback is started at once. Volume is set to STEP8, and 10 seconds are counted down in decrements of second. One step of Fade-out is 0.5 sec.
The display is the same as that appears in the regular sleep playback mode.
3. After completion of SLEEP test, the Test Mode is turned off, and regular standby mode is set, so that the Test Mode ends.

6. LCD Test Mode (TEST 6)

When the LCD Test Mode is set, all the LCD segments light.

7. Key input diagnosis Test Mode (TEST A)

When the Test Mode is set, the following display appears.



In this Test Mode checking as to whether all the main unit keys can be detected is performed. Accordingly, when this mode is set, checking is performed so as to examine whether the POWER key was pressed last after all the following keys were pressed. If the result is OK, the following OK is displayed. If any one of keys was not pressed, an error is indicated. When the POWER key is pressed, exit from the mode is made irrespective of whether the termination is normal or abnormal, and the standby mode is set.

All the models using this microcomputer do not have the same keys. The entry of the following keys is detected depending on the combination of simultaneously pressed keys when this mode is set. Key pressing order is not fixed. Pressing of all keys must be detected.

1. In case of "SRS" + "REC PAUSE"

Since the model does not have RDS and SRS, all the keys to be detected are the following 12 keys.

PLAY, VOL \wedge , VOL \vee , BAND, G-EQ, FUNCTION, MEMORY/SET, REC PAUSE, REW/REV, FF/FWD, STOP, SRS

OK/NG indication of test result must be as follows.

NG indication



OK indication



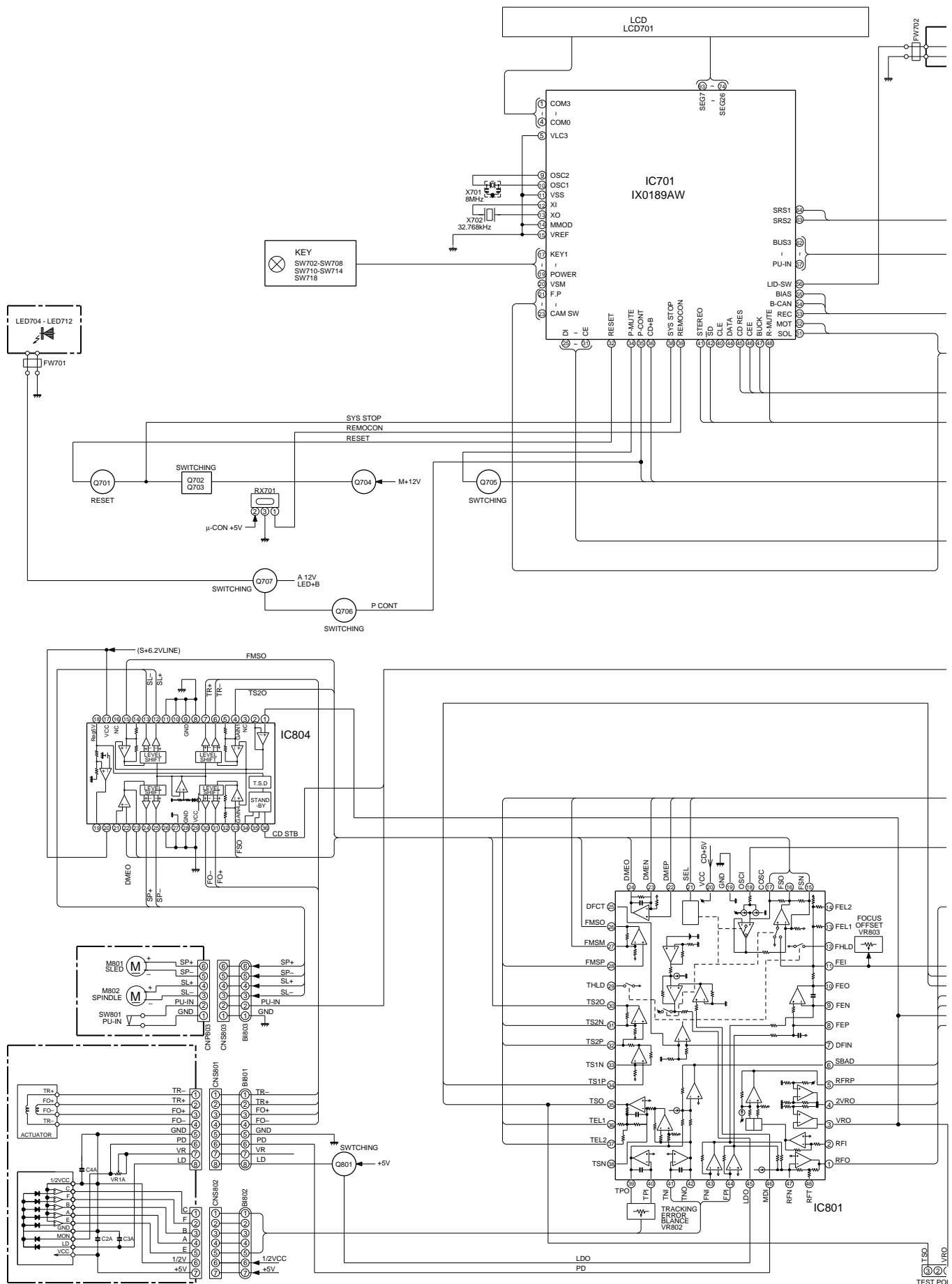


Figure 16 BLOCK DIAGRAM (1/4)

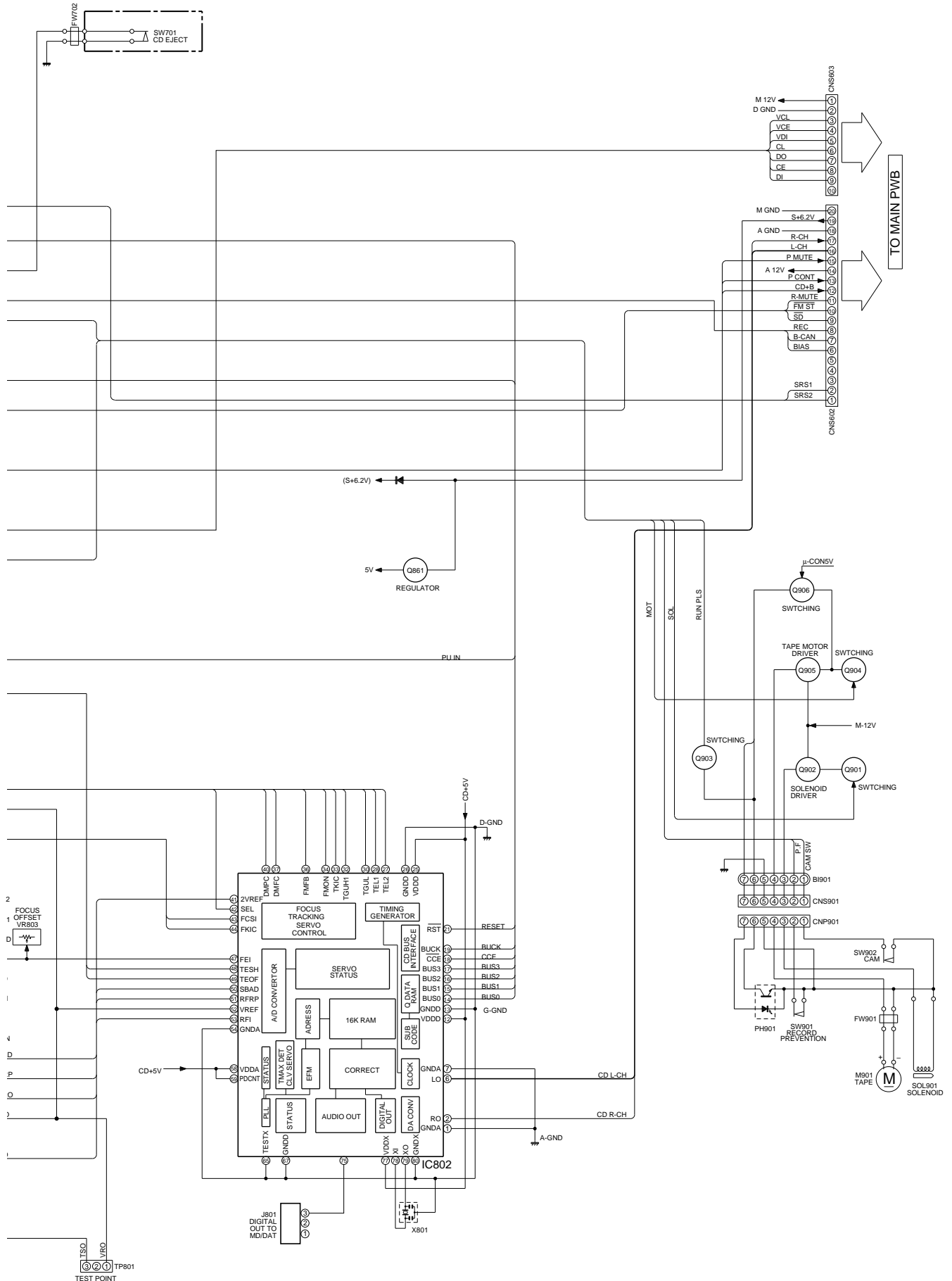


Figure 17 BLOCK DIAGRAM (2/4)

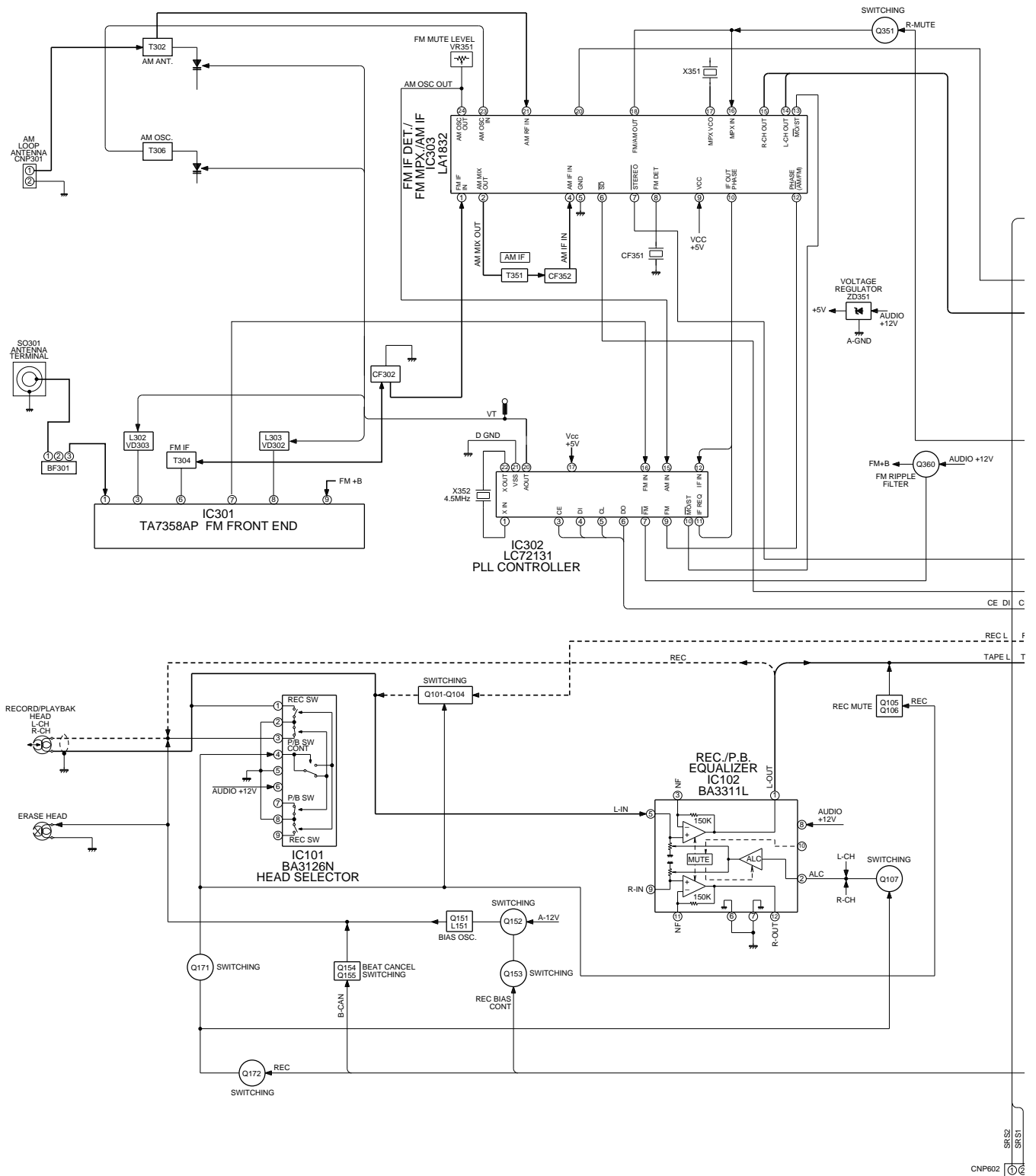


Figure 18 BLOCK DIAGRAM (3/4)

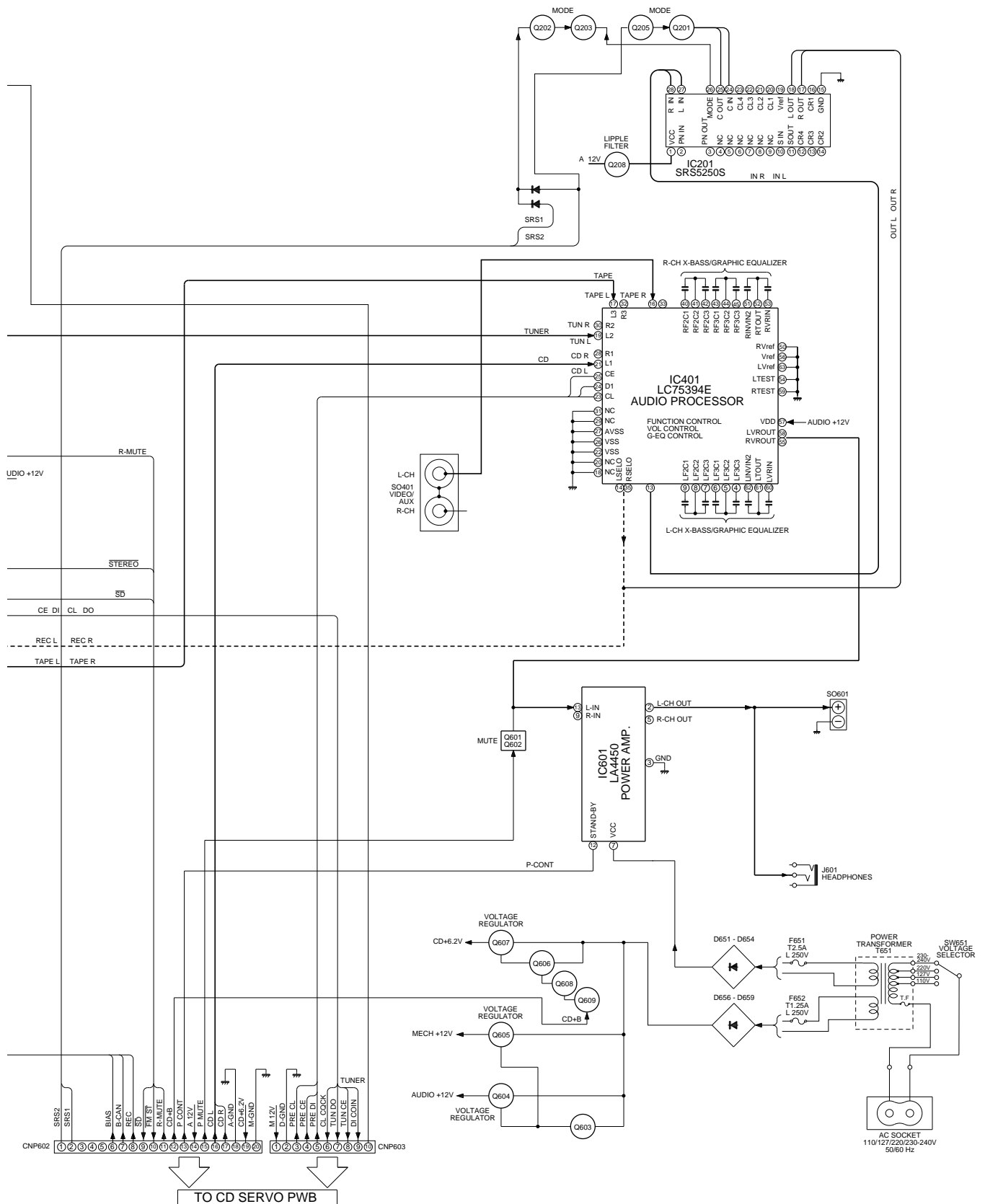


Figure 19 BLOCK DIAGRAM (4/4)

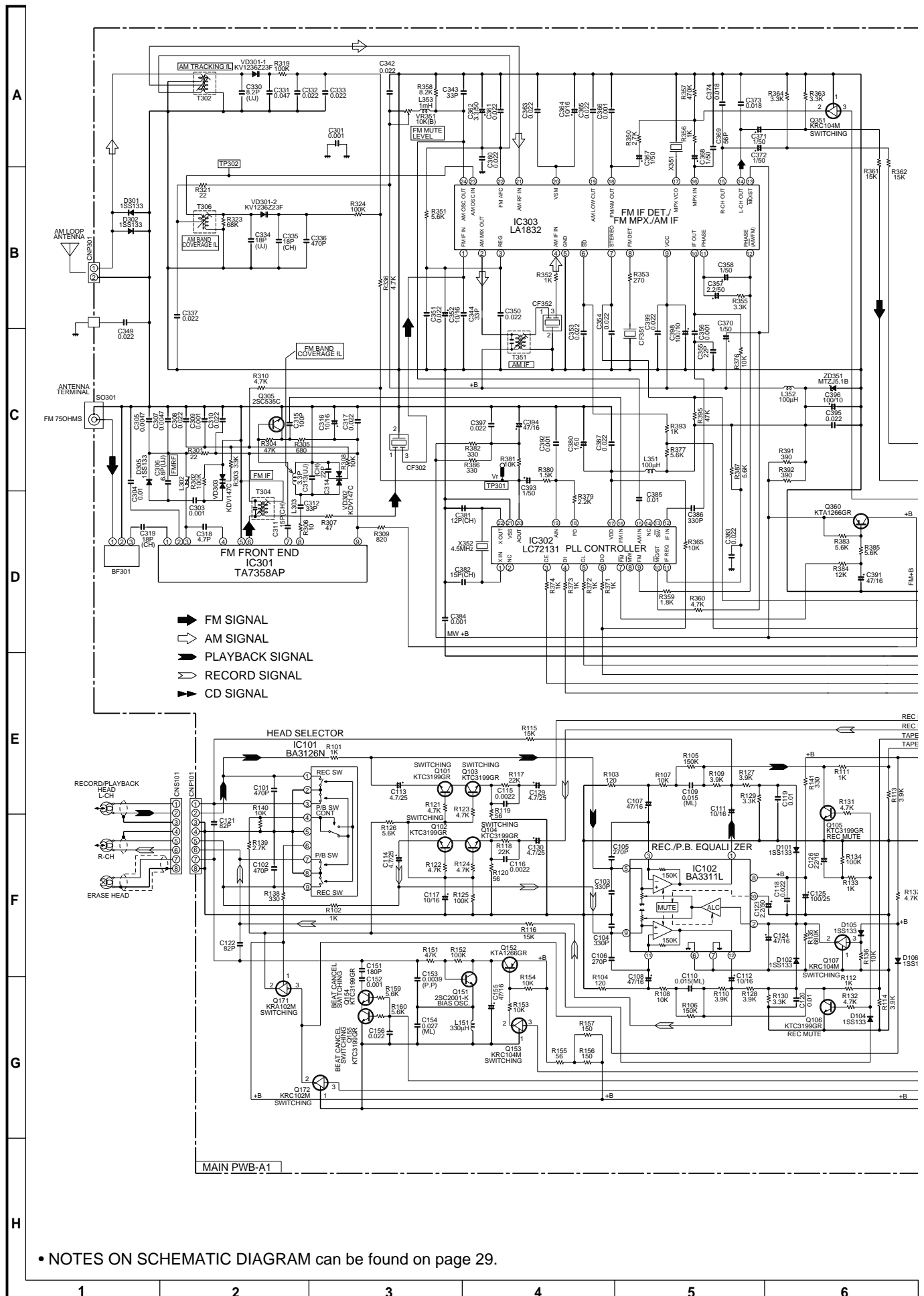


Figure 20 SCHEMATIC DIAGRAM (1/4)

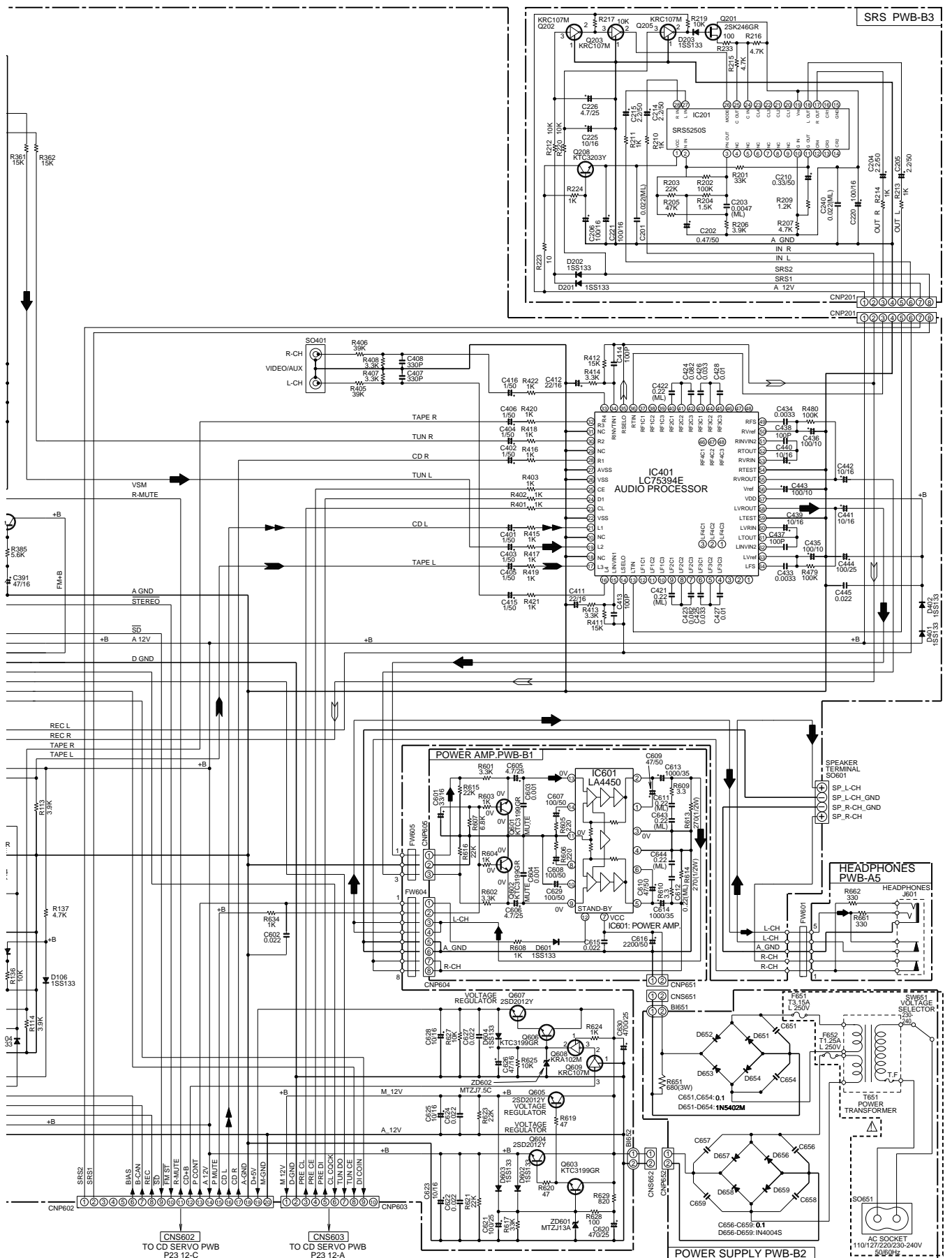


Figure 21 SCHEMATIC DIAGRAM (2/4)

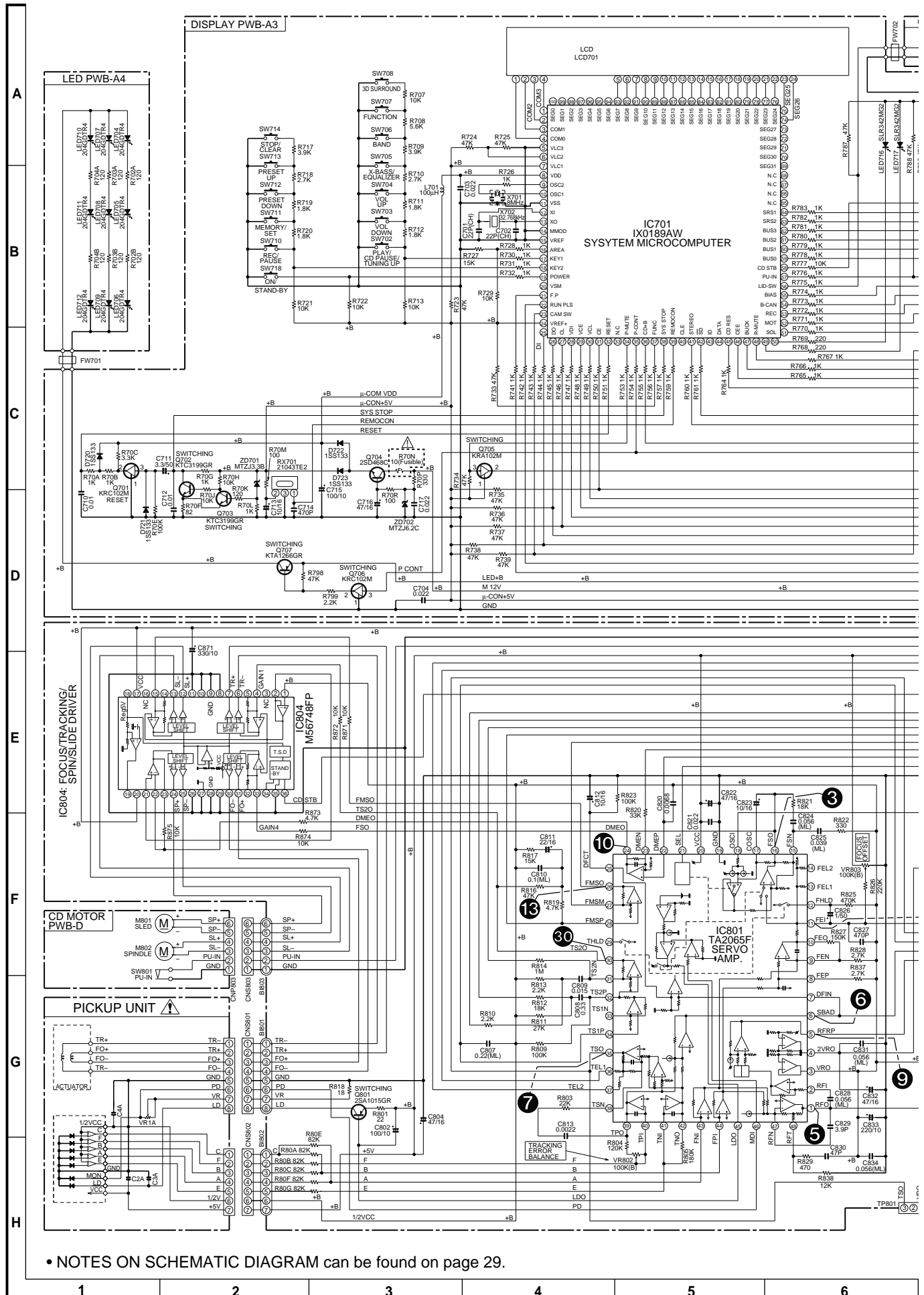
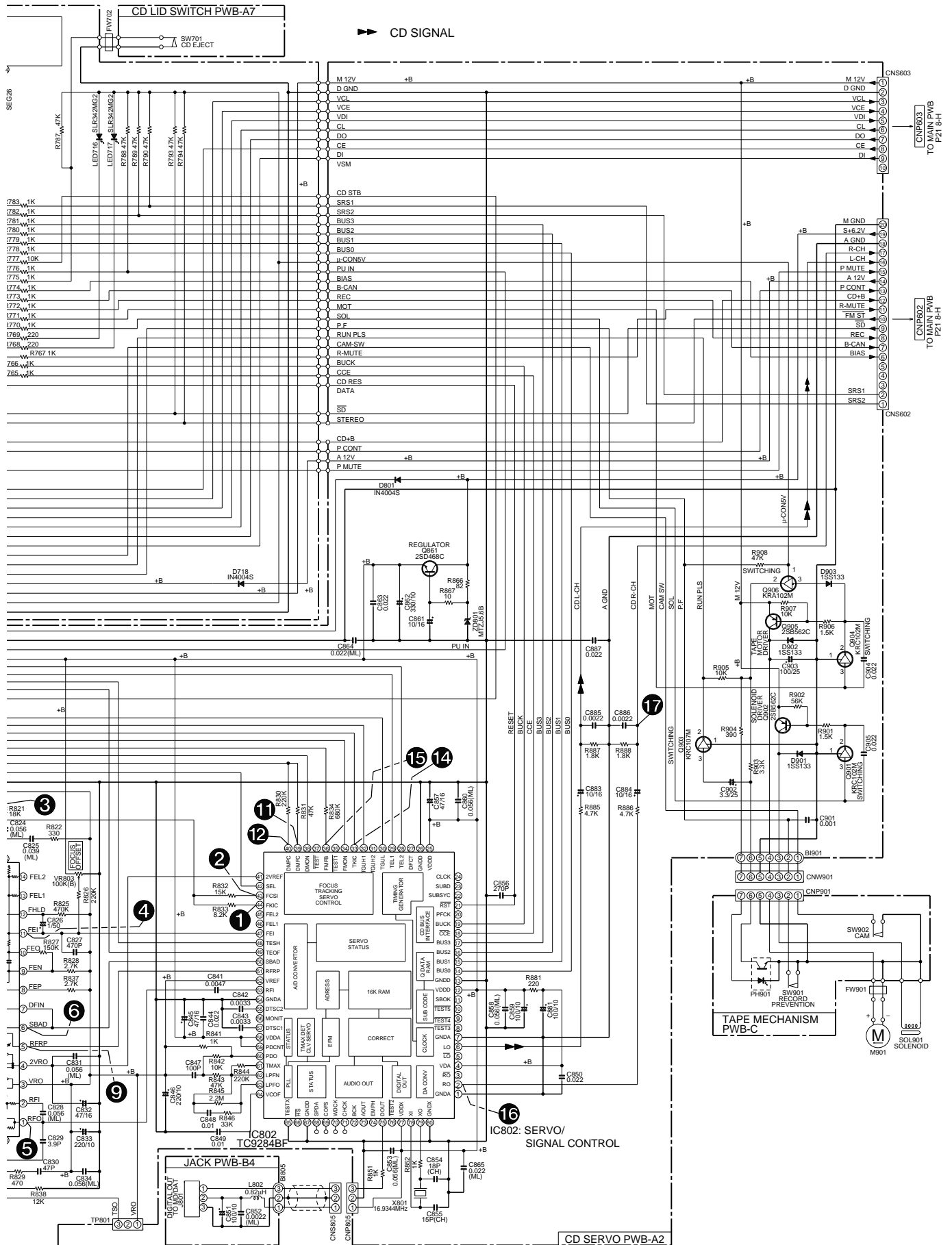


Figure 22 SCHEMATIC DIAGRAM (3/4)



• The numbers 1 to 17 are waveform numbers shown in page 30.

7	8	9	10	11	12
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Figure 23 SCHEMATIC DIAGRAM (4/4)

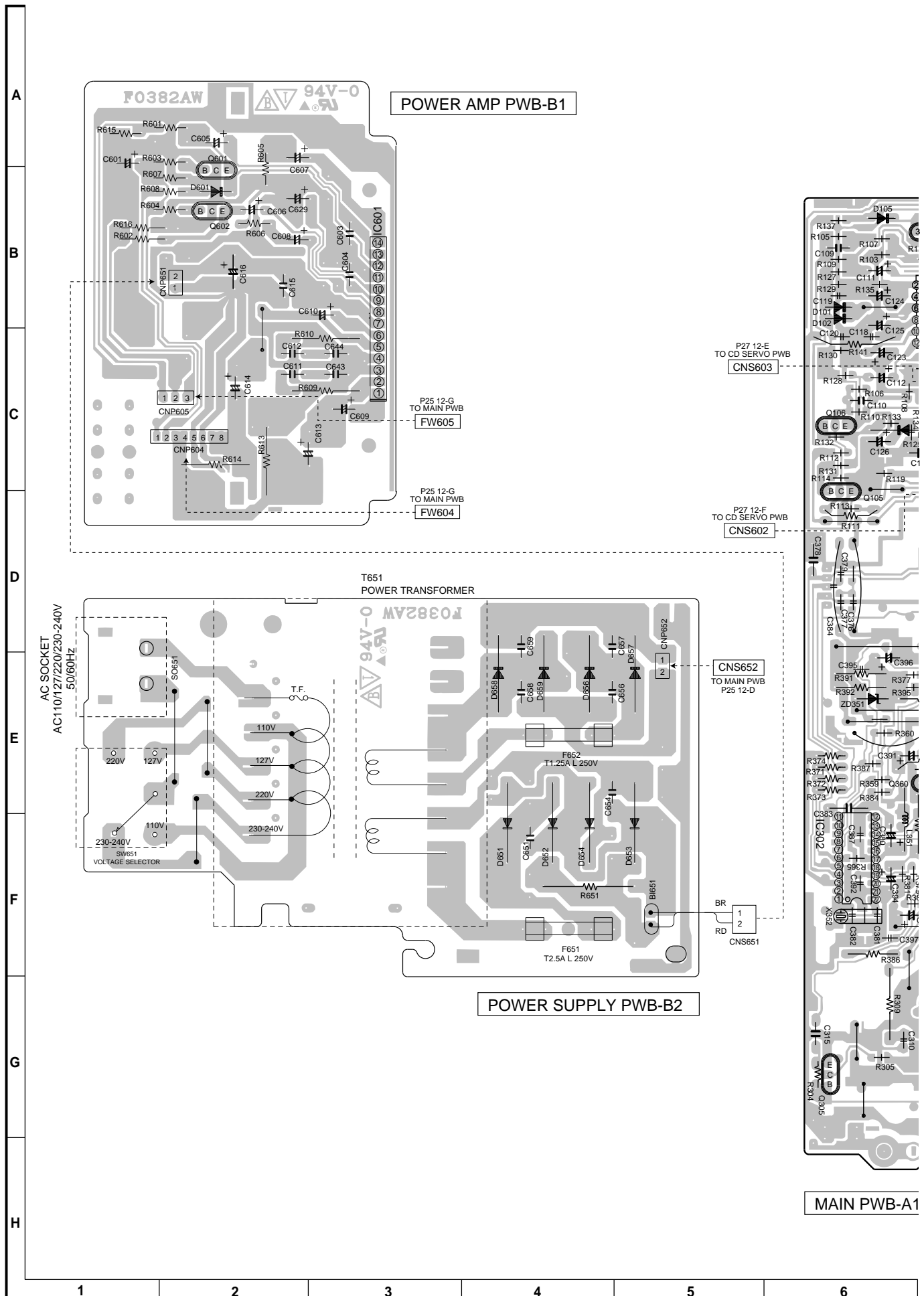


Figure 24 WIRING SIDE OF P.W.BOARD (1/4)

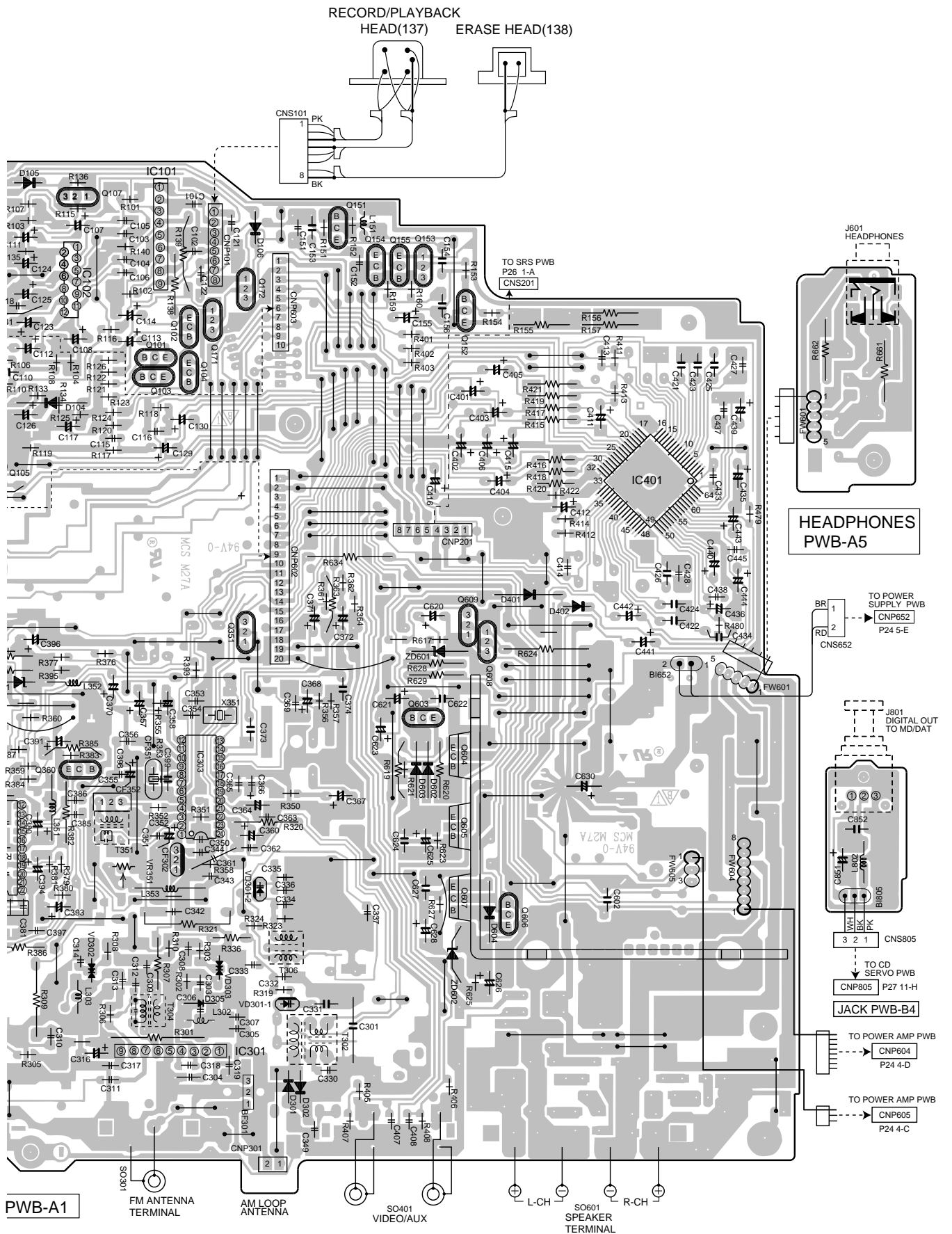


Figure 25 WIRING SIDE OF P.W.BOARD (2/4)

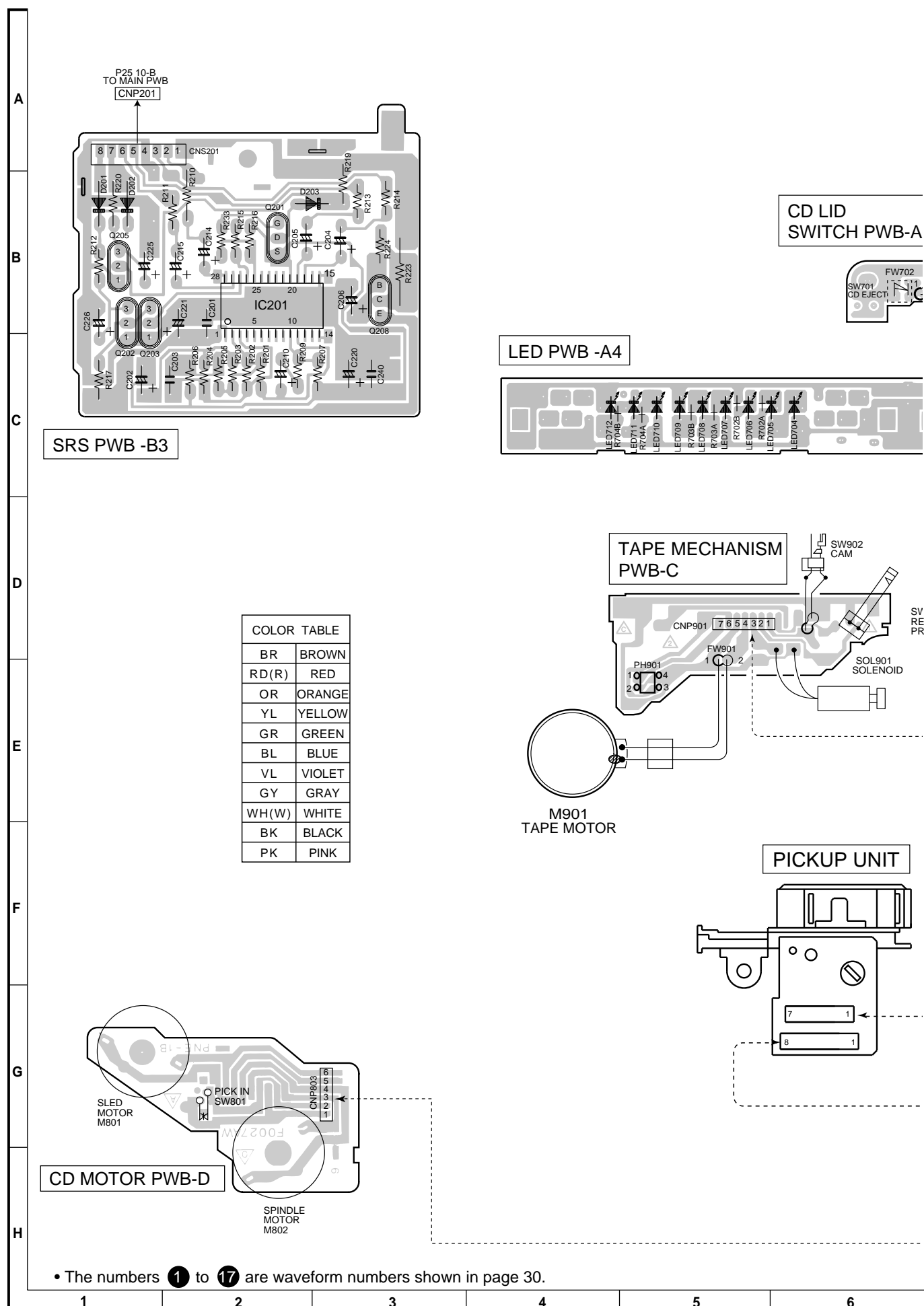


Figure 26 WIRING SIDE OF P.W.BOARD (3/4)

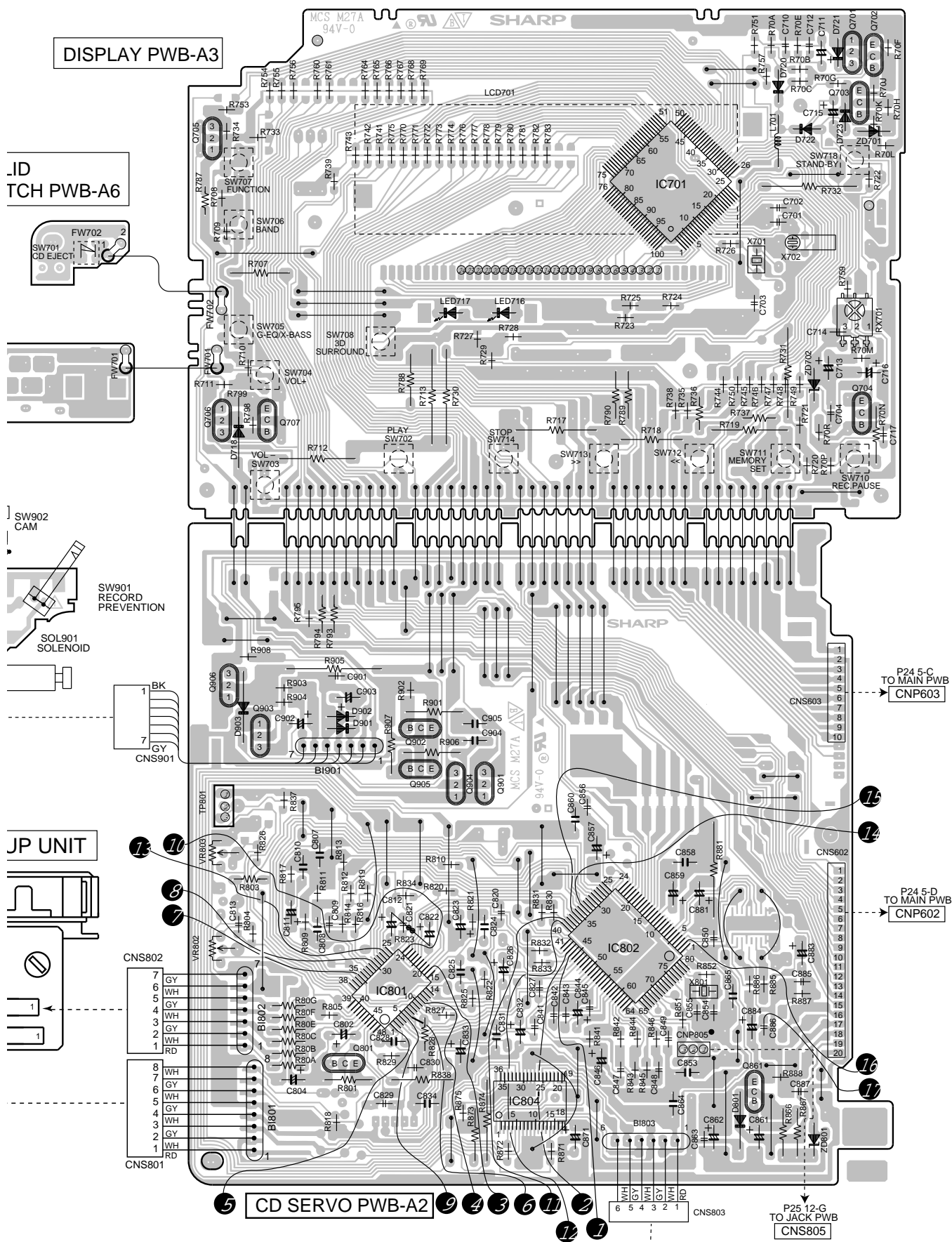


Figure 27 WIRING SIDE OF P.W.BOARD (4/4)

VOLTAGE

IC101	
PIN NO.	VOLTAGE
1	0V
2	0V
3	0V
4	0.3V(8V)
5	0V
6	2.8V
7	0V
8	0V
9	0V

IC102	
PIN NO.	VOLTAGE
1	4.6V
2	0V
3	0.6V
4	–
5	0V
6	0V
7	0V
8	10.2V
9	0V
10	0V(10.1V)
11	0.6V
12	4.6V

IC302	
PIN NO.	VOLTAGE
1	2.6V
2	0V
3	0.1V
4	0.1V
5	4.8V
6	5.1V
7	1.7V(11.4V)
8	3.7V(0V)
9	3.9V
10	0V
11	0V
12	0V
13	3.5V
14	0V
15	0V(2.6V)
16	2.6V(0V)
17	5.2V
18	0.9V
19	0.9V
20	–
21	–
22	2.6V

IC303	
PIN NO.	VOLTAGE
1	2.1V
2	5V
3	2.1V
4	2.1V
5	0V
6	5V
7	5V
8	2.9V(4.3V)
9	5V
10	0V
11	3.8V(1.9V)
12	3.8V(1.2V)
13	4V(2.2V)
14	–
15	1.3V
16	2.1V
17	2.3V(0V)
18	2.3V
19	0V(0.9V)
20	0.6V
21	2.1V(2.7V)
22	2.1V(2.7V)
23	5V
24	3.5V

IC401	
PIN NO.	VOLTAGE
1	4.7V
2	4.7V
3	4.7V
4	4.7V
5	4.7V
6	4.7V
7	4.7V
8	4.7V
9	4.7V
10	4.7V
11	4.7V
12	4.7V
13	4.7V
14	4.7V
15	4.7V
16	4.2V
17	4.3V
18	–
19	4.3V
20	–
21	4.3V
22	–
23	0V
24	0V
25	0V
26	–
27	–
28	4.3V
29	–
30	4.3V
31	–
32	4.3V
33	4.2V
34	4.7V
35	4.7V
36	4.7V
37	4.7V
38	4.7V
39	4.7V
40	4.7V
41	4.7V
42	4.7V
43	4.7V
44	4.7V
45	4.7V
46	4.7V
47	4.7V
48	4.7V
49	4.7V
50	4.7V
51	4.7V
52	4.7V
53	4.7V
54	4.7V
55	4.7V
56	4.7V
57	9.4V
58	4.7V
59	4.7V
60	4.7V
61	4.7V
62	4.7V
63	4.7V
64	4.7V

IC701			
PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
1	2.5V	51	0V
2	2.5V	52	0V
3	2.5V	53	0V
4	2.5V	54	0V
5	0V	55	0V
6	1.7V	56	0V
7	3.3V	57	5V
8	4.9V	58	0V
9	2.6V	59	4.1V
10	2.6V	60	4.1V
11	0V	61	3.9V
12	2.1V	62	3.9V
13	2.1V	63	0V
14	0V	64	4.9V
15	0V	65	0V
16	0V	66	0V
17	5V	67	2.5V
18	5V	68	2.5V
19	5V	69	2.5V
20	5V	70	2.5V
21	0V	71	2.5V
22	5V	72	2.5V
23	5V	73	2.5V
24	5V	74	2.5V
25	0V	75	2.5V
26	5V	76	2.5V
27	0V	77	2.5V
28	0V	78	2.5V
29	0V	79	2.5V
30	0V	80	2.5V
31	0V	81	2.5V
32	4.9V	82	2.5V
33	0V	83	2.5V
34	4.9V	84	2.5V
35	4.5V	85	2.5V
36	4.8V	86	2.5V
37	0V	87	2.5V
38	5V	88	2.5V
39	4.8V	89	2.5V
40	0.4V	90	2.5V
41	5.1V	91	2.5V
42	5.2V	92	2.5V
43	0.4V	93	2.5V
44	0V	94	2.5V
45	4.9V	95	2.5V
46	3.7V	96	2.5V
47	4.3V	97	2.5V
48	0V	98	2.5V
49	4.9V	99	2.5V
50	0V	100	2.5V



IC601	
PIN NO.	VOLTAGE
1	25.7V
2	14.7V
3	0V
4	0V
5	14.6V
6	25.8V
7	28.7V
8	1.22V
9	0V
10	27.7V
11	0V
12	2.07V
13	0V
14	1.22V

IC801	
PIN NO.	VOLTAGE
1	2.4V
2	2.1V
3	2.1V
4	4.2V
5	2.2V
6	2.2V
7	2.2V
8	0V
9	2V
10	2.1V
11	2.2V
12	2V
13	2.2V
14	2.2V
15	2.2V
16	2.3V
17	2.3V
18	2.5V
19	0V
20	5V
21	5V
22	2.2V
23	2.1V
24	2.2V
25	2V
26	2.1V
27	2.1V
28	2.1V
29	0V
30	2.1V
31	2.1V
32	2.1V
33	0V
34	2.1V
35	2.1V
36	2.3V
37	2.1V
38	2.2V
39	1.8V
40	2.1V
41	2.1V
42	1.9V
43	2.1V
44	2.2V
45	2.6V
46	0.3V
47	2.2V
48	1.9V

IC802			
PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
1	0V	41	4.2V
2	2.3V	42	5V
3	2.6V	43	–
4	5V	44	–
5	2.6V	45	–
6	2.3V	46	–
7	0V	47	2.2V
8	5V	48	2.1V
9	5V	49	2.1V
10	5V	50	2.2V
11	5V	51	2.2V
12	5V	52	2.1V
13	0V	53	–
14	4.2V	54	0V
15	4.1V	55	–
16	4.2V	56	–
17	4V	57	–
18	3.8V	58	5V
19	4.3V	59	5V
20	2.3V	60	0V
21	5V	61	–
22	0.1V	62	–
23	5V	63	–
24	0.4V	64	–
25	5V	65	0V
26	0V	66	5V
27	0.2V	67	0V
28	2.1V	68	1.3V
29	2.1V	69	1.7V
30	2.1V	70	2.5V
31	2.4V	71	2.5V
32	2.1V	72	0.3V
33	1.9V	73	2.5V
34	2.1V	74	0V
35	5V	75	2.4V
36	2V	76	5V
37	5V	77	5V
38	2.1V	78	2.2V
39	2.1V	79	2.2V
40	2.2V	80	0V

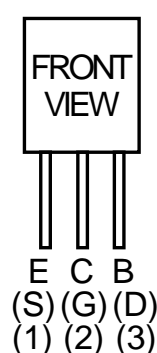
IC804	
PIN NO.	VOLTAGE
1	2.1V
2	2.1V
3	–
4	2.1V
5	2.1V
6	2.3V
7	2.3V
8	0V
9	0V
10	0V
11	0V
12	0V
13	2.3V
14	2.1V
15	2.6V
16	0V
17	5.4V
18	0V
19	–
20	5.4V
21	2.1V
22	2.1V
23	2V
24	2.7V
25	0V
26	0V
27	0V
28	0V
29	0V
30	1.8V
31	2.7V
32	–
33	0V
34	–
35	0V
36	0V

NOTES ON SCHEMATIC DIAGRAM

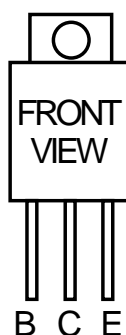
- **Resistor:**
To differentiate the units of resistors, such symbol as K and M are used: the symbol K means 1000 ohm and the symbol M means 1000 kohm and the resistor without any symbol is ohm-type resistor. Besides, the one with "Fusible" is a fuse type.
- **Capacitor:**
To indicate the unit of capacitor, a symbol P is used: this symbol P means micro-micro-farad and the unit of the capacitor without such a symbol is microfarad. As to electrolytic capacitor, the expression "capacitance/withstand voltage" is used.
(CH), (TH), (RH), (UJ): Temperature compensation
(ML): Mylar type
(P.P.): Polypropylene type
- Schematic diagram and Wiring Side of P.W.Board for this model are subject to change for improvement without prior notice.
- The indicated voltage in each section is the one measured by Digital Multimeter between such a section and the chassis with no signal given.
 1. In the tuner section,
() indicates AM
< > indicates FM stereo
 2. In the main section, a tape is being played back.
 3. In the deck section, a tape is being played back.
() indicates the record state.
 4. In the power section, a tape is being played back.
 5. In the CD section, the CD is stopped.
- Parts marked with "△" () () are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

REF. NO	DESCRIPTION	POSITION
SW651	VOLTAGE SELECTOR	110/127/ 220/230-240V
SW701	CD EJECT	ON—OFF
SW702	PLAY	ON—OFF
SW703	VOLUME DOWN	ON—OFF
SW704	VOLUME UP	ON—OFF
SW705	X-BASS/EQUALIZER	ON—OFF
SW706	BAND	ON—OFF
SW707	FUNCTION	ON—OFF
SW708	3D SURROUND	ON—OFF

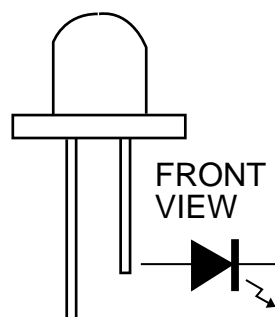
REF. NO	DESCRIPTION	POSITION
SW710	REC PAUSE	ON—OFF
SW711	MEMORY SET	ON—OFF
SW712	PRESET DOWN	ON—OFF
SW713	PRESET UP	ON—OFF
SW714	STOP	ON—OFF
SW718	ON/STAND-BY	ON—OFF
SW801	PICKUP IN	ON—OFF
SW901	RECORD PREVENTION	ON—OFF
SW902	CAM	ON—OFF



2SA1015 GR
2SB562 C
2SC2001 K
2SD468 C
KRA102 M
KRC102 M
KRC104 M
KRC107 M
KTA1266 GR
KTC3199 GR
2SC535 C



2SD2012 Y

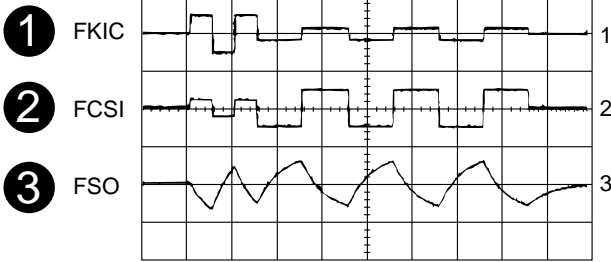


204GDTR4
SLR342MG2F

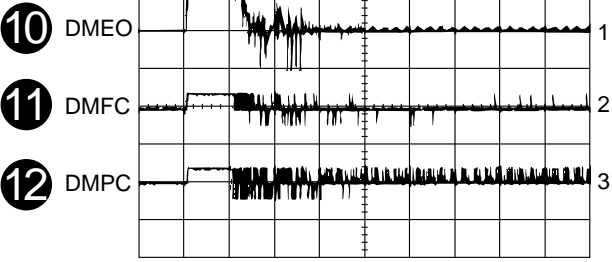
Figure 29 TYPES OF TRANSISTOR AND LED

WAVEFORMS OF CD CIRCUIT

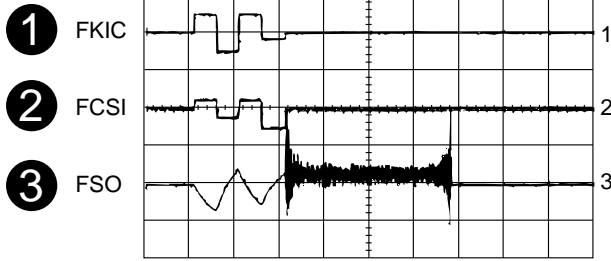
NO DISC FOCUS SEARCH



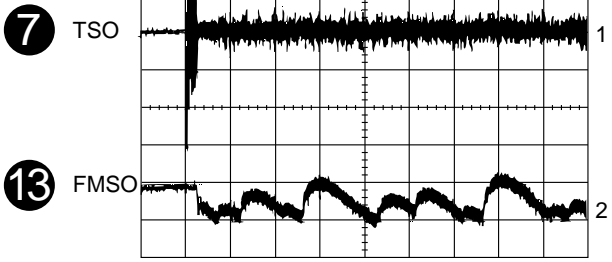
STOP → PLAY



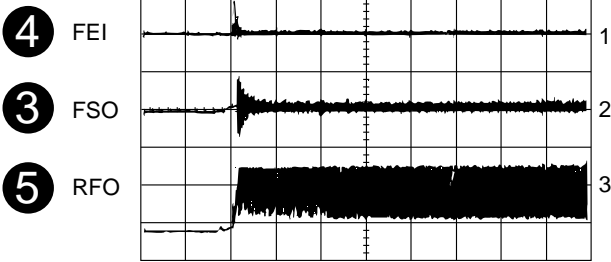
FOCUS SEARCH → IL



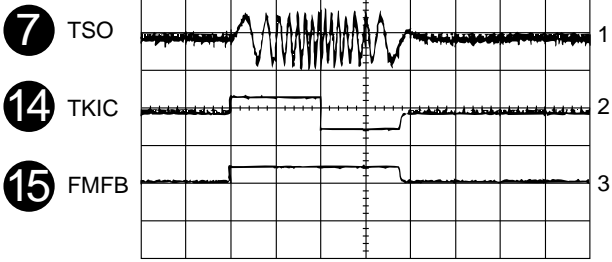
STOP → PLAY



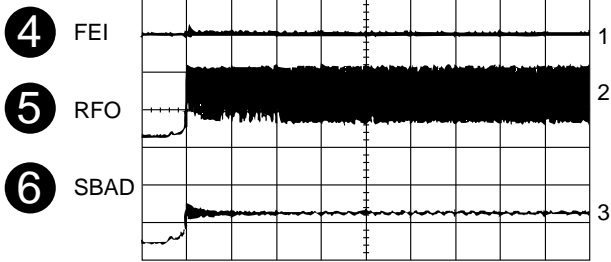
STOP → PLAY



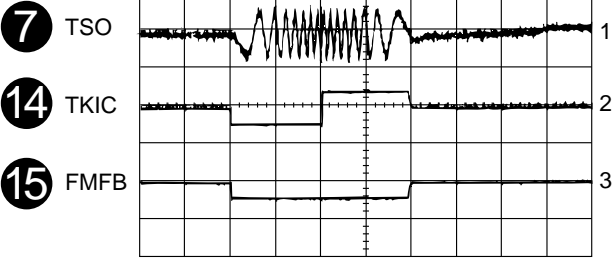
CUE



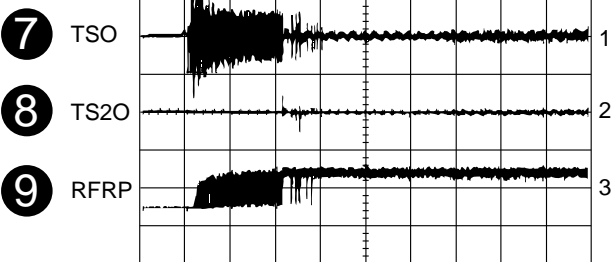
STOP → PLAY



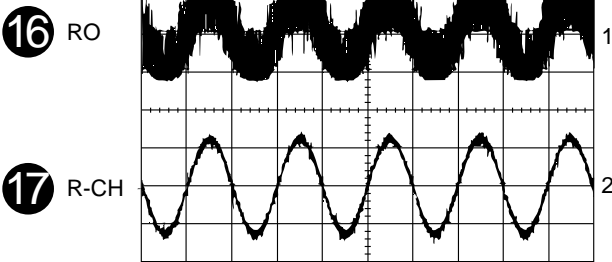
REVIEW



STOP → PLAY



TCD-782 TUO-02 PLAYBACK



TROUBLESHOOTING (CD SECTION)

When the CD does not function

When the CD section does not operate When the objective lens of the optical pickup is dirty, this section may not operate. Clean the objective lens, and check the playback operation. When this section does not operate even after the above step is taken, check the following items.

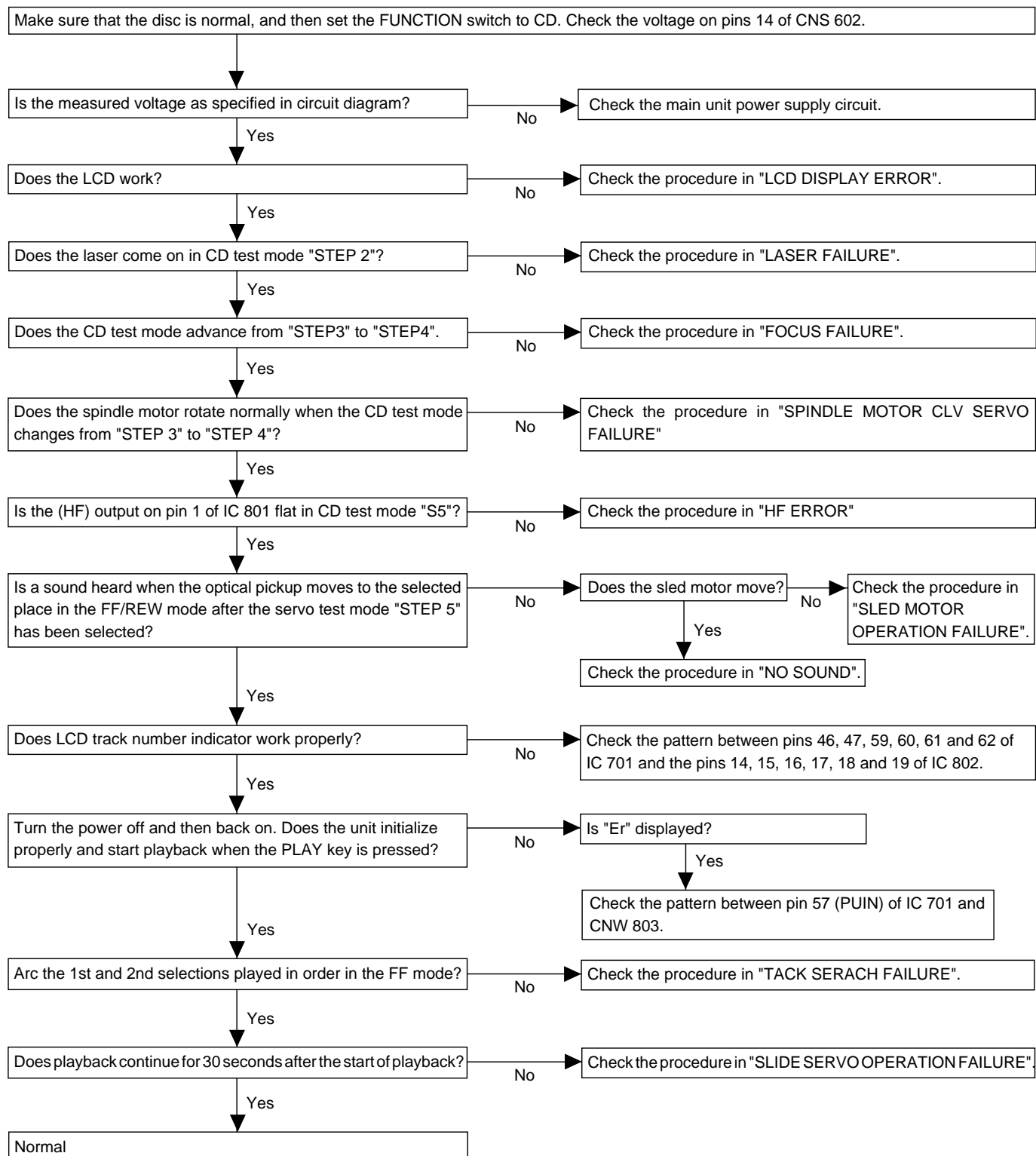
Remove the cabinet and follow the troubleshooting instructions.

"Track skipping and/or no TOC (Table Of Contents) may be caused by build up of dust or other foreign matter on the laser pickup lens. Before attempting any adjustment make certain that the lens is clean. If not, clean it as mentioned below."

Turn the power off.

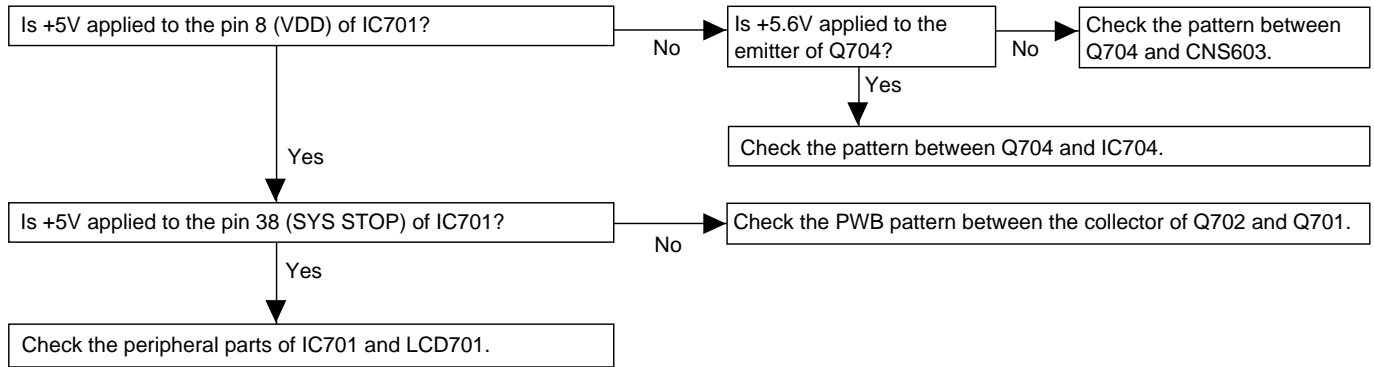
Gently clean the lens with a lens cleaning tissue and a small amount of isopropyl alcohol.

Do not touch the lens with the bare hand.

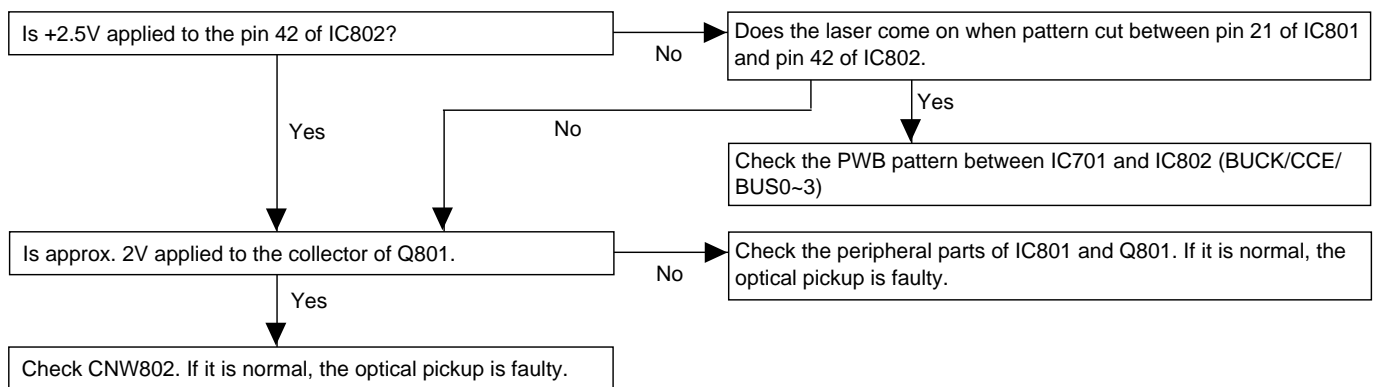


XL-520W/CP-520

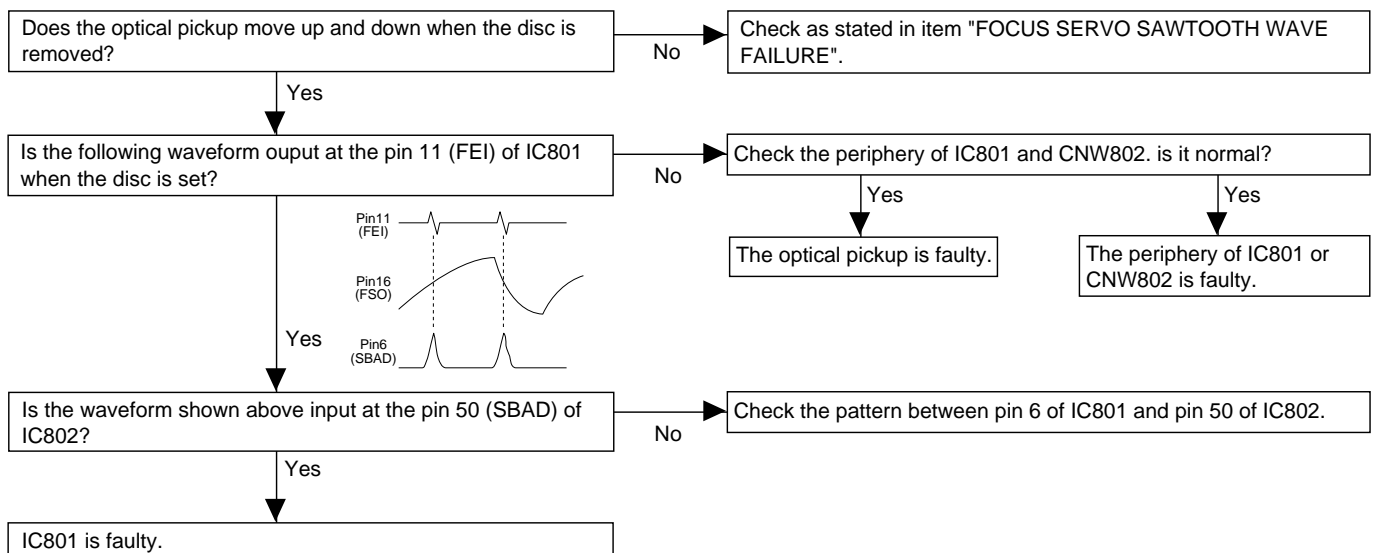
• LCD indication error.



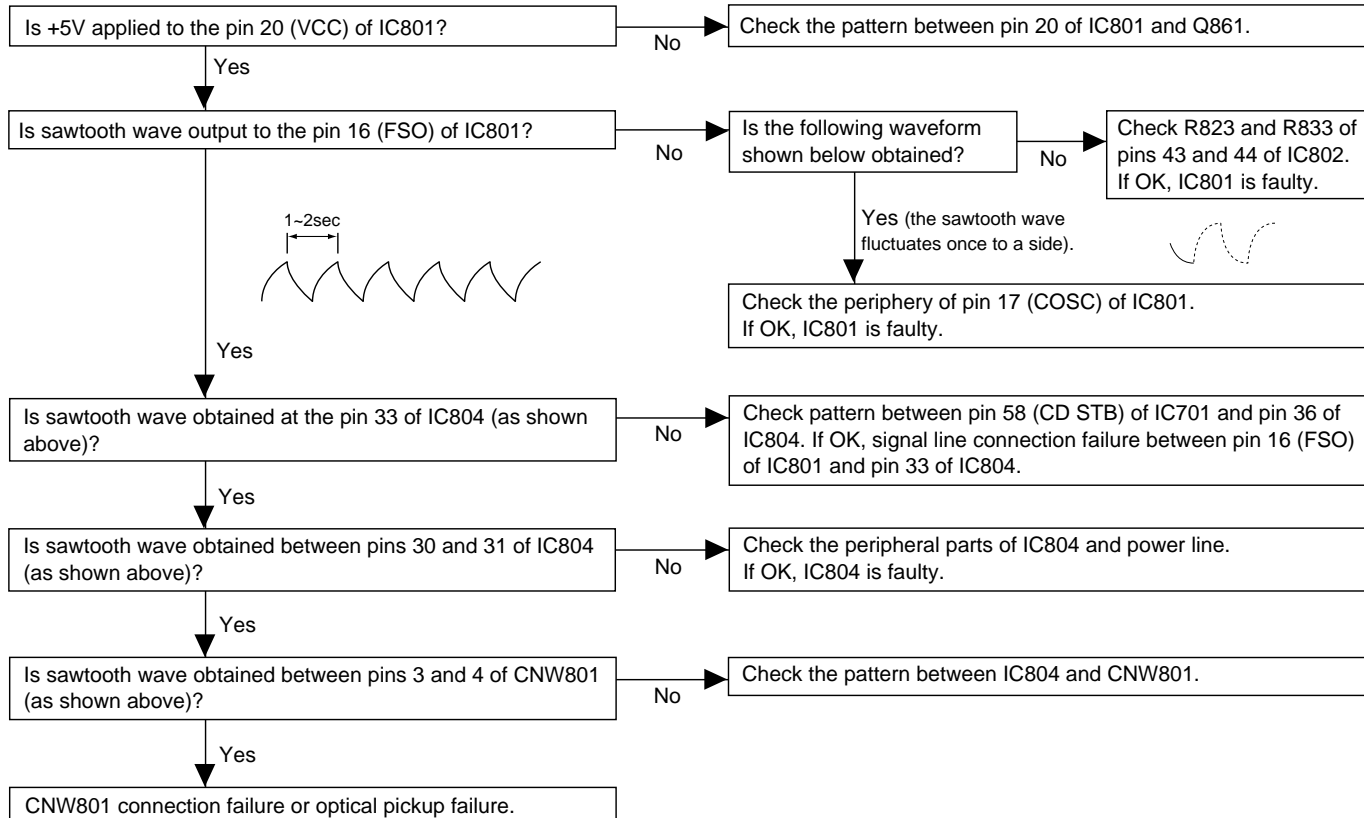
• Laser lighting failure.



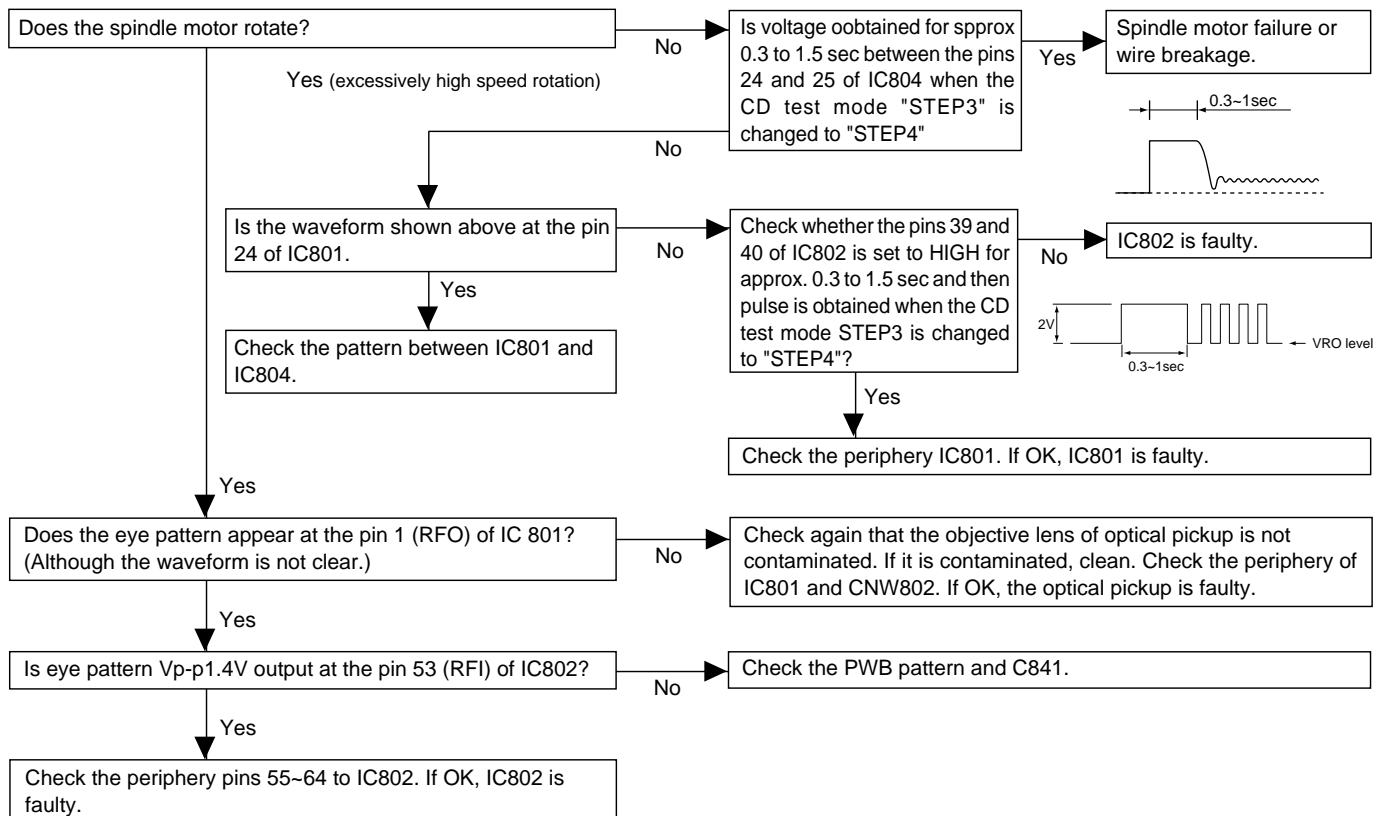
• Focus failure.



• Focus servo sawtooth wave is not output.

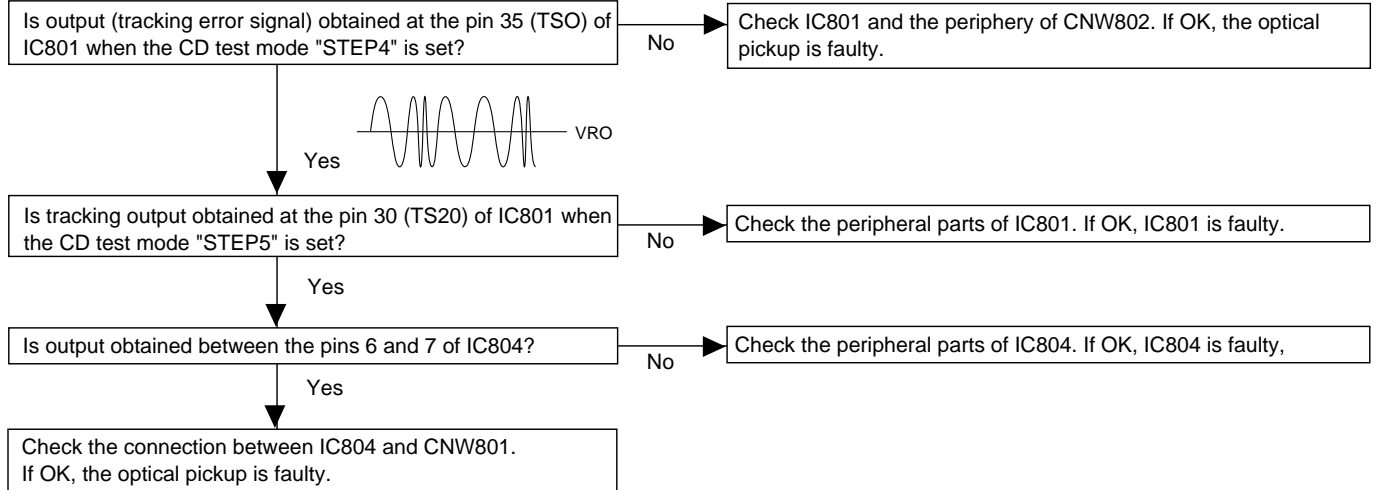


• Spindle motor clv servo failure.

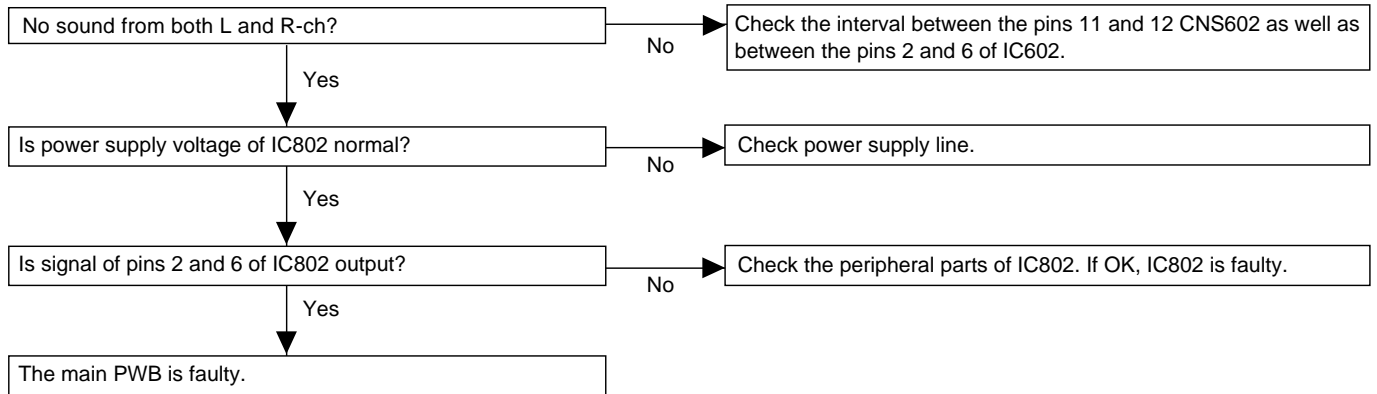


XL-520W/CP-520

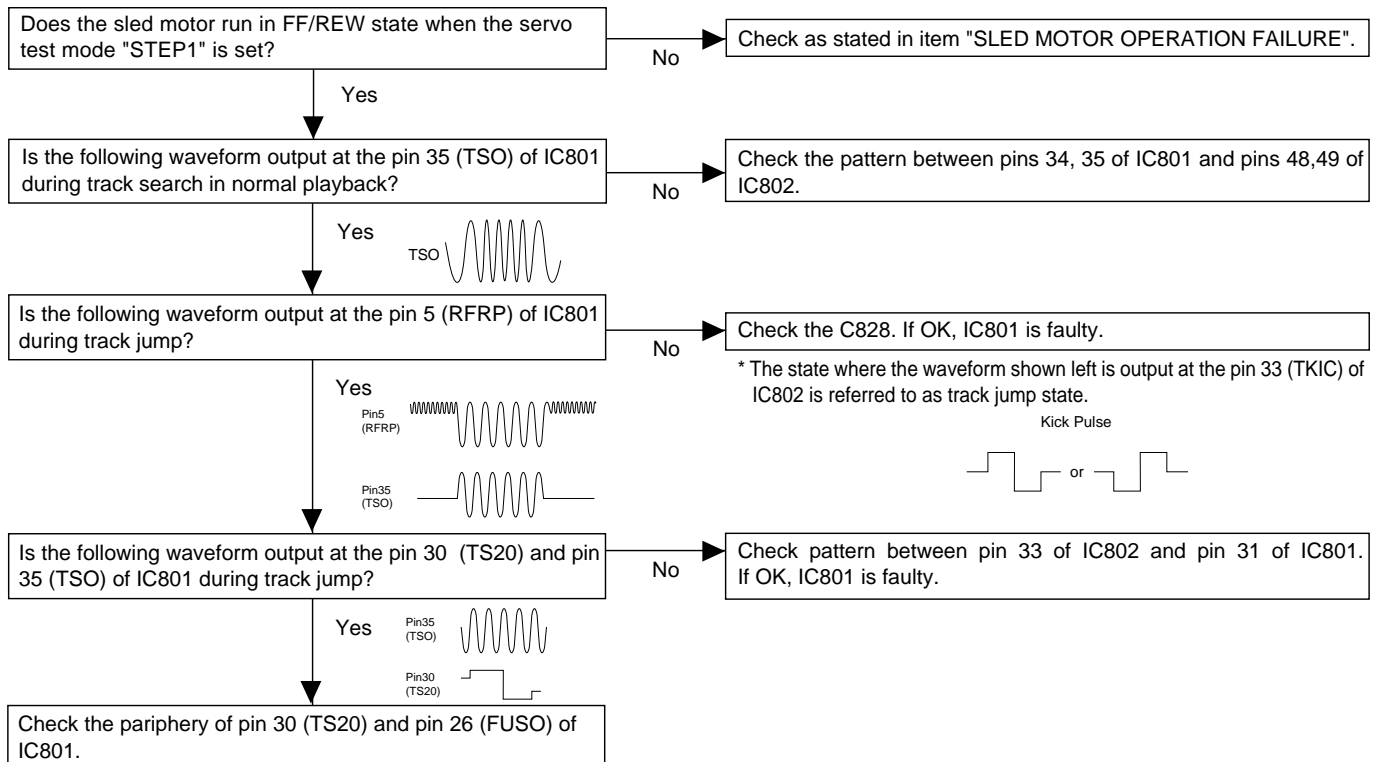
• HF error.



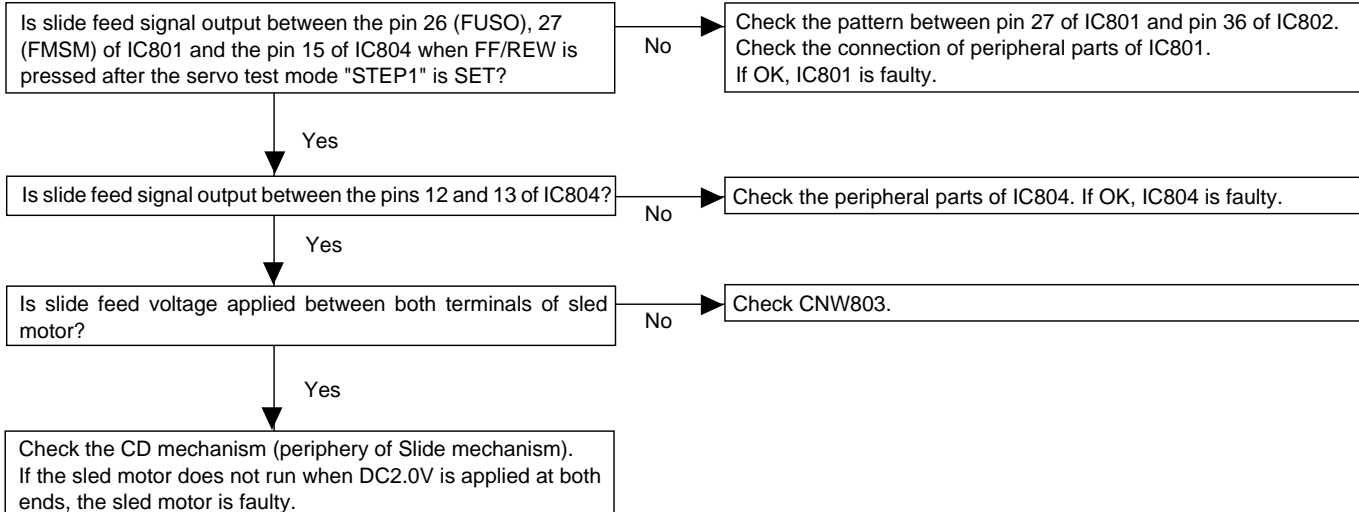
• No sound.



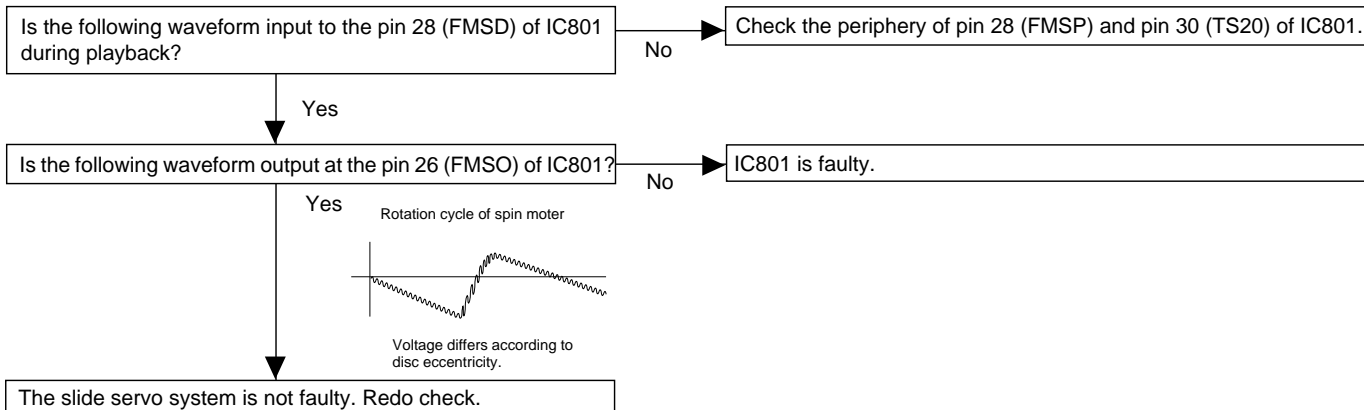
• Track search failure



• Sled motor operation failure.



• Slide servo operation failure.



FUNCTION TABLE OF IC

IC701 RH-iX0189AWZZ: System Microcomputer(iX0189AW) (1/2)

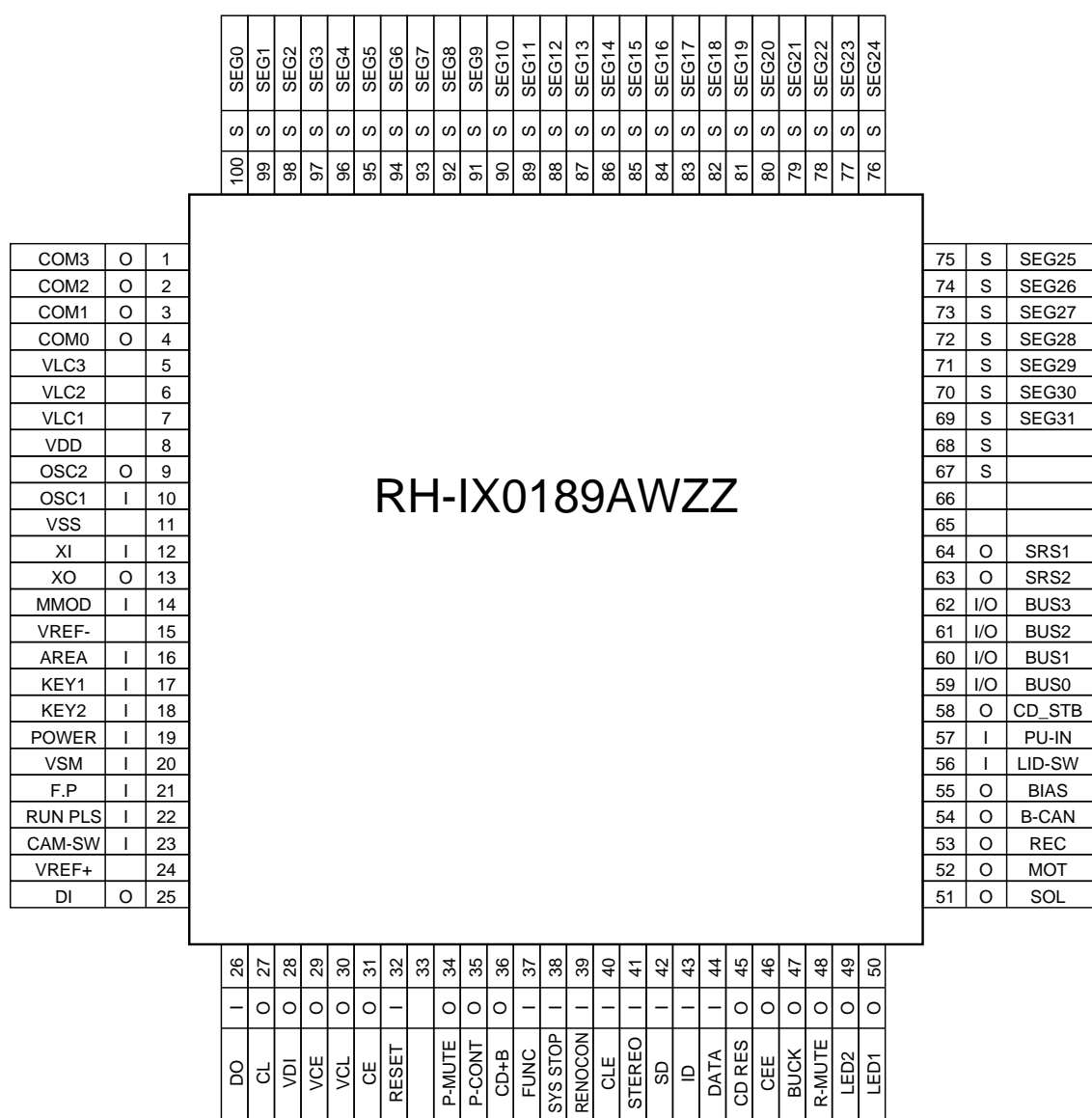
Pin No.	Terminal Name	Input/Output	Function
1-4	COM3-COM0	Output	LCD COMMON output terminal
5-7	VLC3-VLC1	—	LCD power terminal
8	VDD	—	Microcomputer power supply +5V.
9	OSC2	Output	Main clock oscillator connection terminal f=8MHz
10	OSC1	Input	Main clock oscillator connection terminal f=8MHz
11	VSS	—	Microcomputer power supply GND
12	XI	Input	Sub-clock oscillator connection terminal f=32.768kHz
13	XO	Output	Sub-clock oscillator connection terminal f=32.768kHz
14	MMOD	Input	Memory mode selection terminal
15	VREF-	—	Power supply for AD converter GND
16	AREA	Input	Destination detection input this terminal serves as an A/D input port. When resetting is performed, the destination setting is detected based on the DC voltage.
17	KEY1 AN0/PA1	Input	Operation key input, max. 8 keys
18	KEY2 AN0/PA2	Input	Operation key input, max. 8 keys
19	POWER	Input	POWER key input detection
20*	VSM	Input	Tuner signal meter (S meter) voltage input terminal IX0189AW: Unused terminal (regular input port)
21	F.P	Input	Cassette tape erroneous erasing preventing lug detection input H: Record inhibited L: Record enable
22	RUN PLS	Input	Tape run/END detection input If pulse input is detected, it is judged that the tape is running.
23	CAM SW	Input	Cassette mechanism operation status detection input H: Mechanism stop L: Mechanism in operation
24	VREF+	—	A/D converter power supply +5V
25	DI	Output	Terminal to output data to TUNER PLL IC
26	DO	Input	Data input from TUNER PLL IC
27	CL	Output	TUNER PLL IC sync clock output
28	VDI	Output	Terminal to output data to VOL IC
29	VCE	Output	VOL IC chip enable output "L"=OFF "H"=ON
30	VCL	Output	VOL IC sync clock output
31	CE	Output	TUNER PLL IC enable output "L"=OFF "H"=ON
32	RESET	Input	RESET signal input
33*	—	—	No Connect
34	P-MUTE	Output	Power mute output "H"=MUTE OFF "L"=MUTE ON
35	P-CONT	Output	Power amplifier operation control output H: Amplifier operation ON L: Amplifier operation OFF
36	CD+B	Output	CD servo power circuit control output H: CD power ON L: CD power OFF
37	FUNC	Input	Function setting input Reset mode: H: 4-step selection L: 3-step selection
38	SYS STOP	Input	Power failure detection input L: Change to HALT mode
39	REMOCON	Input	Remote controller signal input
40*	CLE	Input	RDS IC sync clock input
41	STEREO	Input	Radio stereo broadcast reception detection input L: Stereo broadcast reception
42	SD	Input	Broadcast reception status detection input L: Broadcast wave reception
43*	ID	Input	RDS signal reception status detection H: RDS not received L: RDS received
44*	DATA	Input	Data input from RDS IC
45	CD RES	Output	LC78623E RESET signal output
46	CEE	Output	TC9284F chip enable terminal L: BUS terminal active
47	BUCK	Output	TC9284F data sync clock output
48	R-MUTE	Output	TUNER mute output "H"=MUTE ON "L"=MUTE OFF
49	LED2	Output	IND LED control output (when SRS2 is on) H: LED goes out L: LED lights
50	LED3	Output	IND LED control output (when SRS1 is on) H: LED goes out L: LED lights
51	SOL	Output	Cassette mechanism solenoid drive control output
52	MOT	Output	Cassette mechanism motor drive control output

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC701 RH-IX0189AWZZ: System Microcomputer(iX0189AW) (2/2)

Pin No.	Terminal Name	Input/Output	Function
53	REC	Output	Tape circuit record/playback selection output H: Record Mode L: Playback Mode
54	B-CAN	Output	Record bias oscillation frequency selection control output
55	BIAS	Output	Record bias oscillation circuit control output H: Bias oscillation L: Oscillation stop
56	LID-SW	Input	CD lid status detection input L: Lid closed H: Lid opened
57	PU-IN	Input	CD pickup position detection SW input L: Innermost periphery
58	CD STB	In/Output	CD servo control IC ON/OFF output terminal L: Servo On H: Servo Stand-by
59-62	BUS 0-3	In/Output	TC9284F control data input/output terminal
63,64	SRS2,1	Output	SRS control output
65*-68*		—	No connect
69-100* (69*-73*, 94*-100*)	SEG31-0	—	LCD SEGMENT output Note: Since RH-IX0189AWZZ is a 24-pin LCD, SEG0 of LCD is connected to SEG7 of microcomputer output terminal (sequential connection up to SEG26).

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

**Figure 37 BLOCK DIAGRAM OF IC**

XL-520W/CP-520

IC802 VHiTC9284BF-1: Servo/Signal Control (TC9284BF) (1/2)

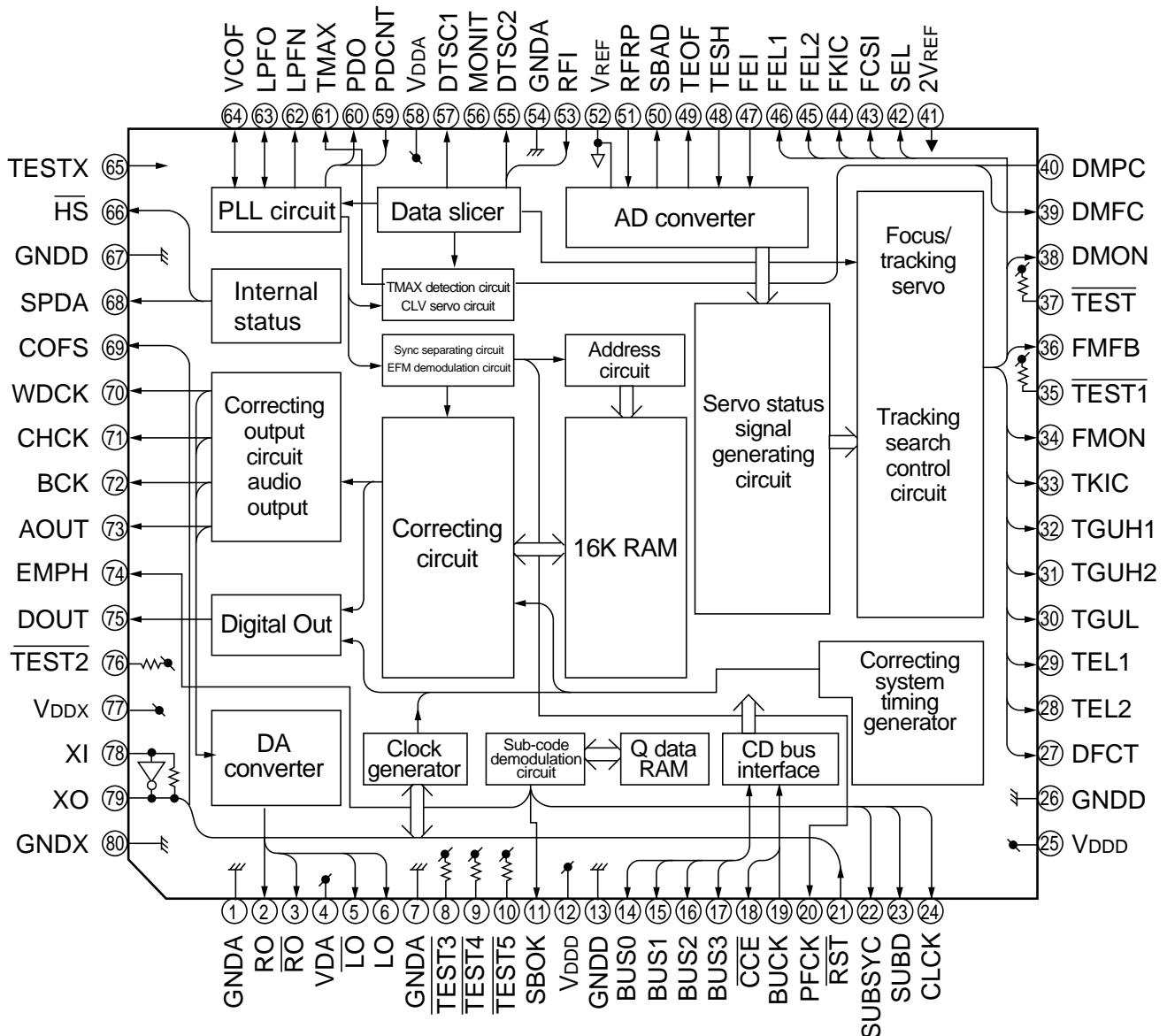
Pin No.	Port Name	Input/Output	Function																
1	GNDA	—	Analog grand terminal fo DA vonverter (R channel)																
2	RO	Output	R channel data forward output terminal.																
3*	\overline{RO}	Output	R channel data reverse output terminal.																
4	VDA	—	Analog power supply terminal for DA converter.																
5*	\overline{LO}	Output	L channel data reverse output terminal.																
6	LO	Output	L channel data forward output terminal.																
7	GNDA	—	Analog grand terminal for DA converter (L channel)																
8*-10*	$\overline{TEST3-TEST5}$	Input	Test terminal. Normally, keep at "H" level or open.																
11*	SBOK	Output	Subcode Q data CRC check adjusting result output terminal. The adjusting result is OK at "H" level.																
12	VDD	—	Digital supply voltage terminal. (+5V)																
13	GND	—	Digital ground terminal.																
14-17	BUS0-BUS3	In/Output	Command and data sending/receiving input/output terminals.																
18	\overline{CCE}	Input	Command and data sending/receiving chip enable signal input terminal. The bus line becomes active at "L" level.																
19	BUCK	Input	Command and data sending/receiving clock input terminal.																
20*	PFCK	Output	Regeneration system frame periodic signal output terminal. 7.35 kHz																
21	\overline{RST}	Input	Reset input terminal. The internal system is reset at "L" level.																
22*	SUBSYC	Output	Subcode sync signal output terminals.																
23*	SUBD	Output	Subcode P~W output terminals.																
24*	CLCK	Input	Subcode P~W data readout clock input terminal.																
25	VDD	—	Digital supply voltage terminal.																
26	GND	—	Digital ground terminal.																
27*	DFCT	Output	Defect detection signal output terminal. VREF when defect is detected. Normally, HiZ.																
28,29	TEL2,1	Output	Tracking gain adjusting analog switch output terminals VREF or Hiz.																
30	TGUL	Output	Tracking servo loop low frequency phase compensator change-over analog switch output terminal. HiZ (gain up) when detecting shock. Normally, VREF.																
31*,32	TGUH2,1	Output	Tracking servo loop middle/high freqeucy phase compensator change-over analog switch output terminals. HiZ (gain up) when detecting shock. Normally, VREF. TGUH1 is used at normal regeneration and TGUH2 is used at double speed regeneration.																
33	TKIC	Output	Tracking actuator kick signal output terminal. Kicks in the outer circumferential direction ar "H" level and in the inner circumferential direction at "L" level.																
34	FMON	Output	Feed servo ON/OFF analog switch output terminals. Servo on at "Hiz". Servo off at "VREF".																
35*	$\overline{TEST1}$	Input	Test terminal. Normally, keep at "H" level or open.																
36	FMFB	Output	Feed motor FWD/BWD feeding control signal output terminal. Feed in the outer circumferential direction at "H" level and in the inner circumferential direction at "L" level.																
37*	\overline{TEST}	Input	Test terminal. Normally, keep at "H" level or open.																
38	DMON	Output	Disc motor driving circuit gain change-over analog switch output terminal.																
39	DMFC	Output	Disc motor CLV servo AFC signal output terminal. <table><tr><th>COMMAND</th><th>DMFC OUTPUT</th><th>OPERATION</th></tr><tr><td>DMFK</td><td>H</td><td>Motor acceleration</td></tr><tr><td>DMSV</td><td>PWM</td><td>CLV servo ON</td></tr><tr><td>DMBK</td><td>L</td><td>Motor deceleration</td></tr><tr><td>DMOFF</td><td>VREF</td><td>CLV servo OFF</td></tr></table>	COMMAND	DMFC OUTPUT	OPERATION	DMFK	H	Motor acceleration	DMSV	PWM	CLV servo ON	DMBK	L	Motor deceleration	DMOFF	VREF	CLV servo OFF	
COMMAND	DMFC OUTPUT	OPERATION																	
DMFK	H	Motor acceleration																	
DMSV	PWM	CLV servo ON																	
DMBK	L	Motor deceleration																	
DMOFF	VREF	CLV servo OFF																	
40	DMPC	Output	Disc motor CLV servo APC signal output terminal.																
41	2VREF	Input	Double times reference voltage input terminal. (VREF x2)																
42	SEL	Output	Servo mode indicating signal output terminal. <table><tr><th>SEL</th><th>LD ON/OFF</th><th>FOCUS SERVO</th><th>OPERATION</th></tr><tr><td>L</td><td>OFF</td><td>OFF</td><td>LD OFF</td></tr><tr><td>HiZ</td><td>ON</td><td>OFF</td><td>Focus Search</td></tr><tr><td>H</td><td>ON</td><td>ON</td><td>Normal play, etc. Focus Servo ON : FOK</td></tr></table>	SEL	LD ON/OFF	FOCUS SERVO	OPERATION	L	OFF	OFF	LD OFF	HiZ	ON	OFF	Focus Search	H	ON	ON	Normal play, etc. Focus Servo ON : FOK
SEL	LD ON/OFF	FOCUS SERVO	OPERATION																
L	OFF	OFF	LD OFF																
HiZ	ON	OFF	Focus Search																
H	ON	ON	Normal play, etc. Focus Servo ON : FOK																

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC802 VHiTC9284BF-1: Servo/Signal Control (TC9284BF) (2/2)

Pin No.	Port Name	Input/Output	Function		
43	FCSI	Output	Focus actuator driving signal output terminal in the focus search mode.		
			COMMAND	FCSI OUTPUT	OPERATION
			FORST	H	Lens gets for away from disc
			FOSET	L	Lens gets near disc
			Others	HiZ	Other than focus search
44	FKIC	Output	Focus actuator driving signal output terminal in the focus gain adjusting mide.		
			COMMAND	FKIC OUTPUT	OPERATION
			FGASR	H	Lens gets for away from disc
			FGASS	L	Lens gets near disc
			Others	HiZ	Other than focus adjustment
45*,46*	FEL2,1	Output	Focus again adjusting analog switch output terminals.		
47	FEI	Input	Focus error signal input terminal.		
48	TESH	Input	Tracking error signal input sample holding analog switch input terminal.		
49	TEOF	Output	Tracking servo operation ON/OFF analog switch output terminal. VREF when the tracking servo is OFF.		
50	SBAD	Input	Sub beam adding signal input terminal.		
51	RFRP	Input	RF ripple signal input terminal.		
52	VREF	Input	Reference voltage input terminal. (+2.1V)		
53	RFI	Input	RF signal input terminal.		
54	GNDA	—	Analog ground terminal.		
55	DTSC2	Output	Data slice control EFM signal passive output terminal.		
56*	MONIT	Output	Internal signal (EFMO, PLCK, LOCK and MBOV) output terminal. Slected by command.		
57	DTSC1	Output	Data slice control EFM signal nagative output terminal.		
58	VDDA	—	Analog supply voltage terminal. (+5V)		
59	PDCNT	Input	PDO output control terminal. At "L" level, PDO output is made to HiZ by force.		
60	PDO	Output	Phase error signal output terminal between EFM signal and PLCK.		
61	TMAX	Output	TMAX signal output terminal, HiZ at time of system clock.		
			TMAX PERIOD	TMAX OUTPUT	
			Longer than specified period	L	
			Shorter than specified period	H (2VREF)	
			Specified period	HiZ	
62	LPFN	Input	LPF amplifier inverting input terminal for PLL.		
63	LPFO	Output	LPF amplifier output terminal for PLL.		
64	VCOF	Input	VCO filter terminal.		
65	TESTX	Input	Test terminal.		
66*	HS	Output	Double speed monitor output terminal. Double speed operation at "L" level.		
67	GNDD	—	Digital ground terminal.		
68*	SPDA	Output	Processor status signal output terminal. Correction process judging result, memory buffer capacity, etc.		
69*	COFS	Output	Correction system frame periodic signal output terminal. 7.35 kHz.		
70*	WDCK	Output	Word clock output terminal. Normally, 88.2kHz.		
71*	CHCK	Output	Channel clock output terminal. Normally, 44.1 kHz.		
72*	BCK	Output	Bit clock output terminal. Normally, 1.4112MHz		
73*	AOUT	Output	Audio data output terminal.		
74*	EMPH	Output	Emphasis ON/OFF indication signal output terminal. Emphasis ON at "H" level.		
75	DOUT	Output	Digital out output terminal.		
76*	TEST2	Input	Test terminal. Normally, keep at "H" level or open.		
77	VDDX	Output	Oscillator supply voltage terminal.		
78,79	XI,XO	In/Output	Crystal oscillator connecting teminal.		
80	GNDX	Output	Oscillator grand terminal.		

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.



IC801 VHiTA2065F/-1:Servo Amp. (TA2065F)

Pin No.	Terminal Name	Input/Output	Function
1	RFO	Output	RF amp (RF AMP) output terminal.
2	RFI	Input	RF ripple signal generating circuit input terminal.
3	VRO	Output	VR amp output terminal.
4	2VRO	Output	2VR amp output terminal.
5	RFRP	Output	RF ripple signal output terminal.
6	SBAD	Output	Defects detection signal output terminal.
7	DFIN	Input	Defect detecting comparator positive phase input terminal.
8	FEP	Input	Focus error balance adjusting input terminal.
9	FEN	Input	Focus error amp (FE AMP) negative phase input terminal.
10	FEO	Output	Focus error amp (FE AMP) output terminal.
11	FEI	Input	Focus output amp (FS AMP) positive phase input terminal.
12	FHLD	Input	Hold switch terminal for defect.
13*,14*	FEL1,2	Input	Focus gain adjusting terminal.
15	FSN	Input	Focus output amp (FS AMP) negative phase input terminal.
16	FSO	Output	Focus output amp (FS AMP) output terminal.
17	COSC	Output	Focus search signal generating capacitor connecting terminal.
18	OSCI	Input	Focus search signal generating built-in current source control input terminal.
19	GND	—	Ground terminal.
20	VCC	—	Power source terminal.
21	SEL	Input	Analog switch control signal input terminal.
22	DMEP	Input	Disc motor amp (DM AMP) positive phase input terminal.
23	DMEN	Input	Disc motor amp (DM AMP) negative phase input terminal.
24	DMEO	Output	Disc motor amp (DM AMP) output terminal.
25	DFCT	Input	Defect detecting comparator negative phase input terminal.
26	FMSO	Output	Feed motor output amp (FMS AMP) output terminal.
27	FMSN	Input	Feed motor output amp (FMS AMP) negative phase input terminal.
28	FMSP	Input	Feed motor output amp (FMS AMP) positive phase input terminal.
29*	THLD	Input	Hold switch terminal for defect.
30	TS2O	Output	Tracking servo amp 2 (TS2 AMP) output terminal.
31	TS2N	Input	Tracking servo amp 2 (TS2 AMP) negative phase input terminal.
32	TS2P	Input	Tracking servo amp 2 (TS2 AMP) positive phase input terminal.
33*	TS1N	Input	Tracking servo amp 1 (TS1 AMP) negative phase input terminal.
34	TS1P	Input	Tracking servo amp 1 (TS1 AMP) positive phase input terminal.
35	TSO	Output	Tracking output amp (TS AMP) output terminal.
36,37	TEL1,2	Input	Tracking gain adjusting terminal.
38	TSN	Input	Tracking output amp (TS AMP) negative phase input terminal.
39	TPO	Output	Sub-beam I-V amp output terminal.
40	TPI	Input	Sub-beam I-V amp input terminal.
41	TNI	Input	Sub-beam I-V amp input terminal.
42	TNO	Output	Sub-beam I-V amp output terminal.
43	FNI	Input	Main-beam I-V amp input terminal.
44	FPI	Input	Main-beam I-V amp input terminal.
45	LDO	Output	Laser diode amp output terminal.
46	MDI	Input	Monitor photo diode amp input terminal.
47	RFN	Input	RF amp negative phase input terminal.
48	RFT	Input	RF amp peaking terminal.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

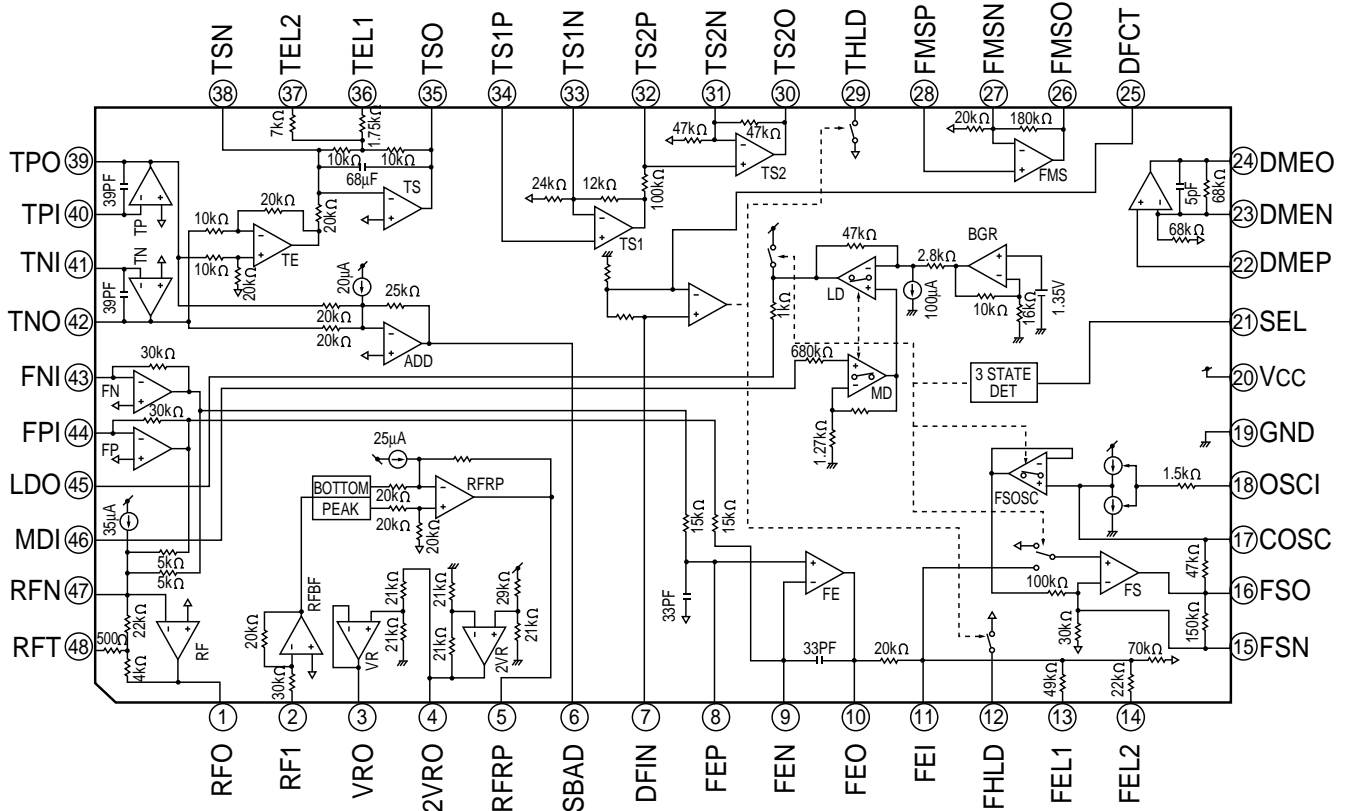


Figure 42 BLOCK DIAGRAM OF IC

SHARP PARTS GUIDE

MODEL **XL-520W**
CP-520

“HOW TO ORDER REPLACEMENT PARTS”

To have your order filled promptly and correctly, please furnish the following information.

- | | |
|-----------------|----------------|
| 1. MODEL NUMBER | 2. REF. No. |
| 3. PART NO. | 4. DESCRIPTION |

★ MARK: SPARE PARTS-DELIVERY SECTION

For U.S.A. only

Contact your nearest SHARP Parts Distributor to order.

For location of SHARP Parts Distributor,
Please call Toll-Free;
1-800-BE-SHARP

Explanation of capacitors/resistors parts codes

Capacitors

VCC Ceramic type
 VCK Ceramic type
 VCT Semiconductor type
 VC •• MF Cylindrical type (without lead wire)
 VC •• MN Cylindrical type (without lead wire)
 VC •• TV Square type (without lead wire)
 VC •• TQ Square type (without lead wire)
 VC •• CY Square type (without lead wire)
 VC •• CZ Square type (without lead wire)
 VC J .. The 13th character represents capacity difference.
 ("J" $\pm 5\%$, "K" $\pm 10\%$, "M" $\pm 20\%$, "N" $\pm 30\%$,
 "C" ± 0.25 pF, "D" ± 0.5 pF, "Z" $+80-20\%$.)


If there are no indications for the electrolytic capacitors, error is $\pm 20\%$.

Resistors

VRD Carbon-film type
 VRS Carbon-film type
 VRN Metal-film type
 VR •• MF Cylindrical type (without lead wire)
 VR •• MN Cylindrical type (without lead wire)
 VR •• TV Square type (without lead wire)
 VR •• TQ Square type (without lead wire)
 VR •• CY Square type (without lead wire)
 VR •• CZ Square type (without lead wire)
 VR J .. The 13th character represents error.
 ("J" $\pm 5\%$, "F" $\pm 1\%$, "D" $\pm 0.5\%$.)

If there are no indications for other parts, the resistors are $\pm 5\%$ carbon-film type.

NOTE:

Parts marked with “” are important for maintaining the safety of the set.

Be sure to replace parts with specified ones for maintaining the safety and performance of the set.

XL-520W/CP-520

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
XL-520W				
INTEGRATED CIRCUITS				
IC101	VHIBA3126N/-1	J	AF	Head Selector,BA3126N
IC102	VHIBA3311L/-1	J	AK	REC./P.B.Equalizer Amp., BA3311L
IC201	VHISRS5250S-1	J	BL	SRS,SRS5250S
IC301	VHITA7358AP-1	J	AG	FM Front End,TA7358AP
IC302	VHILC72131/-1	J	AP	PLL (Tuner),LC72131
IC303	VHILA1832/-1	J	AR	FM IF Det./FM Mpx./AM IF, LA1832
IC401	VHILC75394E-1	J	AX	Audio Processor LC75394E
IC601	VHILA4450/-1	J	AH	Power Amp.,LA4450
IC701	RH-IX0189AWZZ	J	AS	System Microcomputer IX0189AW
IC801	VHITA2065F/-1	J	AT	Servo Amp.,TA2065F
IC802	VHITC9284BF-1	J	AY	Servo/Signal Control,TC9284BF
IC804	VHIM56748FP-1	J	AR	Focus/Tracking/Spin/Slide Driver,M56748FP
TRANSISTORS				
Q101~106	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q107	VSKRC104M/-1	J	AC	Digital,NPN,KRC104 M
Q151	VS2SC2001-K-1	J	AD	Silicon,NPN,2SC2001 K
Q152	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q153	VSKRC104M/-1	J	AC	Digital,NPN,KRC104 M
Q154,155	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q171	VSKRA102M/-1	J	AC	Digital,PNP,KRA102 M
Q172	VSKRC102M/-1	J	AC	Digital,NPN,KRC102 M
Q201	VS2SK246GR/-1	J	AB	FET,2SK246 GR
Q202,203	VSKRC107M/-1	J	AC	Digital,NPN,KRC107 M
Q205	VSKRC107M/-1	J	AC	Digital,NPN,KRC107 M
Q208	VSKTC3203Y/-1	J	AC	Silicon,NPN,KTC3203 Y
Q305	VS2SC535-C/-1	J	AC	Silicon,NPN,2SC535 C
Q351	VSKRC104M/-1	J	AC	Digital,NPN,KRC104 M
Q360	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q601~603	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q604,605	VS2SD2012Y/-1	J	AF	Silicon,NPN,2SD2012 Y
Q606	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q607	VS2SD2012Y/-1	J	AF	Silicon,NPN,2SD2012 Y
Q608	VSKRA102M/-1	J	AC	Digital,PNP,KRA102 M
Q609	VSKRC107M/-1	J	AC	Digital,NPN,KRC107 M
Q701	VSKRC102M/-1	J	AC	Digital,NPN,KRC102 M
Q702,703	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q704	VS2SD468-C/-1	J	AD	Silicon,NPN,2SD468 C
Q705	VSKRA102M/-1	J	AC	Digital,PNP,KRA102 M
Q706	VSKRC102M/-1	J	AC	Digital,NPN,KRC102 M
Q707	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q801	VS2SA1015GR-1	J	AB	Silicon,PNP,2SA1015 GR
Q861	VS2SD468-C/-1	J	AD	Silicon,NPN,2SD468 C
Q901	VSKRC102M/-1	J	AC	Digital,NPN,KRC102 M
Q902	VS2SB562-C/-1	J	AD	Silicon,PNP,2SB562 C
Q903	VSKRC107M/-1	J	AC	Digital,NPN,KRC107 M
Q904	VSKRC102M/-1	J	AC	Digital,NPN,KRC102 M
Q905	VS2SB562-C/-1	J	AD	Silicon,PNP,2SB562 C
Q906	VSKRA102M/-1	J	AC	Digital,PNP,KRA102 M
DIODES				
D101,102	VHD1SS133/-1	J	AA	Silicon,1SS133
D104~106	VHD1SS133/-1	J	AA	Silicon,1SS133
D201~203	VHD1SS133/-1	J	AA	Silicon,1SS133
D301,302	VHD1SS133/-1	J	AA	Silicon,1SS133
D305	VHD1SS133/-1	J	AA	Silicon,1SS133
D401,402	VHD1SS133/-1	J	AA	Silicon,1SS133
D601~604	VHD1SS133/-1	J	AA	Silicon,1SS133
△ D651~654	VHD1N5402M/-1	J	AE	Silicon,1N5402M
D656~659	VHD1N4004S/-1	J		Silicon,1N4004S
D718	VHD1N4004S/-1	J		Silicon,1N4004S
D720~723	VHD1SS133/-1	J	AA	Silicon,1SS133
D801	VHD1N4004S/-1	J		Silicon,1N4004S
D901~903	VHD1SS133/-1	J	AA	Silicon,1SS133
LED704~712	VHP204GDTR4-V	J	AD	LED,Green,204GDTR4
LED716,717	VHPSLR342MG2F	J		LED,Green,SLR342MG2F
PH901	VHPI31535CD-1	J	AG	Photo Interrupter
VD301	VHCKV1236Z23F	J	AS	Variable Capacitance, KV1236Z23F
VD302,303	VHCKDV147C/-1	J	AH	Variable Capacitance,KDV147C
ZD351	VHEMTZJ5R1B-1	J	AC	Zener,5.1V,MTZJ5.1B

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
ZD601	VHEMTZJ130A-1	J	AC	Zener,13V,MTZJ13A
ZD602	VHEMTZJ7R5C-1	J	AC	Zener,7.5V,MTZJ7.5C
ZD701	VHEMTZJ3R3B-1	J	AA	Zener,3.3V,MTZJ3.3B
ZD702	VHEMTZJ6R2C-1	J	AC	Zener,6.2V,MTZJ6.2C
ZD801	VHEMTZJ5R6B-1	J	AD	Zener,5.6V,MTZJ5.6B
FILTERS				
BF301	RFILR0008AWZZ	J	AE	FM Band Pass Filter
CF302	92LFILTF1768AT	J	AE	FM IF
CF351	RFILF0003AWZZ	J	AK	FM IF
CF352	RFILA0009AWZZ	J	AE	AM IF
TRANSFORMERS				
T302	RCILA0052AWZZ	J	AE	AM Antenna
T304	RCILIO012AWZZ	J	AD	FM IF
T306	RCILB0058AWZZ	J	AC	AM Oscillation
T351	RCILIO015AWZZ	J	AE	AM IF
△ T651	RTRNP0152AWZZ	J	BD	Power
COILS				
L151	VP-MK331K0000	J	AB	330 μH,Choke
L302	RCILR0029AWZZ	J	AA	FM RF
L303	RCILB0060AWZZ	J	AC	OSC,FM
L351,352	VP-DH101K0000	J	AB	100 μH,Choke
L353	VP-DH102K0000	J	AB	1 mH,Choke
L701	VP-DH101K0000	J	AB	100 μH,Choke
L802	VP-XHR82K0000	J	AC	0.82 μH
VARIABLE RESISTORS				
VR351	92LVRS103NBMT	J	AC	10 kohm (B),Semi-VR [FM Mute Level]
VR802	92LVRS104NBMT	J	AC	100 kohm (B),Semi-VR [Tracking Error Balance]
VR803	92LVRS104NBMT	J	AC	100 kohm (B),Semi-VR [Focus Offset]
VIBRATORS				
X351	RCRM-0028AWZZ	J	AE	Ceramic
X352	RCRSP0002AWZZ	J	AH	Crystal,4.5 MHz
X701	RCRM-0029AWZZ	J	AE	Ceramic,8 MHz
X702	RCRSP0051AFZZ	J	AK	Crystal,32.768 kHz
X801	RCRSP0005AWZZ	J	AF	Crystal,16.9344 MHz
CAPACITORS				
C101,102	VCKYMN1HB471K	J	AA	470 pF,50V
C103,104	VCKYMN1HB331K	J	AA	330 pF,50V
C105,106	VCKYMN1HB271K	J	AA	270 pF,50V
C107,108	RC-GZA476AF1C	J	AB	47 μF,16V,Electrolytic
C109,110	RC-QZ0016AWZZ	J	AB	0.015 μF,50V,Electrolytic
C111,112	RC-GZA106AF1C	J	AB	10 μF,16V,Electrolytic
C113,114	RC-GZA475AF1E	J	AB	4.7 μF,25V,Electrolytic
C115,116	VCTYMN1CX222K	J	AA	0.0022 μF,16V
C117	RC-GZA106AF1C	J	AB	10 μF,16V,Electrolytic
C118	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C119,120	VCTYMN1CY103K	J	AA	0.01 μF,16V
C121,122	VCKYMN1HB820K	J	AA	82 pF,50V
C123	RC-GZA225AF1H	J	AB	2.2 μF,50V,Electrolytic
C124	RC-GZA476AF1C	J	AB	47 μF,16V,Electrolytic
C125	RC-GZA107AF1E	J	AB	100 μF,25V,Electrolytic
C126	RC-GZA226AF1C	J	AB	22 μF,16V,Electrolytic
C129,130	RC-GZA475AF1E	J	AB	4.7 μF,25V,Electrolytic
C151	VCKYMN1HB181K	J	AA	180 pF,50V
C152	VCKYMN1HB102K	J	AA	0.001 μF,50V
C153	VCQPKA2AA392J	J	AB	0.0039 μF,100V,Polypropylene
C154	VCQYKA1HM273J	J	AB	0.027 μF,50V,Mylar
C155	RC-GZA476AF1C	J	AB	47 μF,16V,Electrolytic
C156	VCKZPA1HF223Z	J	AA	0.022 μF,50V
C201	RC-QZ0018AWZZ	J	AB	0.022 μF,50V,Mylar
C202	RC-GZA474AF1H	J	AA	0.47 μF,50V,Electrolytic
C203	RC-QZ0010AWZZ	J	AB	0.0047 μF,50V,Mylar
C204,205	RC-GZA225AF1H	J	AB	2.2 μF,50V,Electrolytic
C206	RC-GZA107AF1C	J	AB	100 μF,16V,Electrolytic
C210	RC-GZA334AF1H	J	AA	0.33 μF,50V,Electrolytic
C214,215	RC-GZA225AF1H	J	AB	2.2 μF,50V,Electrolytic
C220,221	RC-GZA107AF1C	J	AB	100 μF,16V,Electrolytic
C225	RC-GZA106AF1C	J	AB	10 μF,16V,Electrolytic

NO.	PART CODE	★	PRICE RANK	DESCRIPTION	NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
C226	RC-GZA475AF1E	J	AB	4.7 μF,25V,Electrolytic	C602	VCKZPA1HF223Z	J	AA	0.022 μF,50V
C240	RC-QZ0018AWZZ	J	AB	0.022 μF,50V,Mylar	C603,604	VCKYPA1HB102K	J	AA	0.001 μF,50V
C301	VCKYPA1HB102K	J	AA	0.001 μF,50V	C605,606	RC-GZA475AF1E	J	AB	4.7 μF,25V,Electrolytic
C303	VCKYMN1HB102K	J	AA	0.001 μF,50V	C607	RC-GZA107AF1H	J	AC	100 μF,50V,Electrolytic
C304	VCTYMN1CY103K	J	AA	0.01 μF,16V	C608	RC-GZA107AF1H	J	AC	100 μF,50V,Electrolytic
C305	VCTYMN1CX472K	J	AA	0.0047 μF,16V	C609,610	RC-GZA476AF1H	J	AB	47 μF,50V,Electrolytic
C306	VCCUMN1HJ6R8J	J		6.8 pF (UJ),50V	C611,612	RC-QZA224AFYJ	J	AB	0.22 μF,50V,Mylar
C307	VCTYMN1CX472K	J	AA	0.0047 μF,16V	C613,614	RC-GZV108AF1V	J	AD	1000 μF,35V,Electrolytic
C308	VCTYMN1EF223Z	J	AA	0.022 μF,25V	C615	VCKZPA1HF223Z	J	AA	0.022 μF,50V
C309,310	VCKYMN1HB102K	J	AA	0.001 μF,50V	C616	RC-GZW228AF1H	J	AH	2200 μF,50V,Electrolytic
C311	VCCCMN1HH150J	J	AA	15 pF (CH),50V	C620	RC-GZV477AF1E	J	AC	470 μF,25V,Electrolytic
C312	VCCSMN1HL330J	J	AA	33 pF,50V	C621	RC-GZA107AF1E	J	AB	100 μF,25V,Electrolytic
C313	VCCUMN1HJ3R3K	J	AB	3.3 pF (UJ),50V	C622	VCKZPA1HF223Z	J	AA	0.022 μF,50V
C314	VCCCMN1HH220J	J	AA	22 pF (CH),50V	C623	RC-GZA106AF1C	J	AB	10 μF,16V,Electrolytic
C315	VCKYBT1HB101K	J	AA	100 pF,50V	C624	VCKZPA1HF223Z	J	AA	0.022 μF,50V
C316	RC-GZA106AF1C	J	AB	10 μF,16V,Electrolytic	C625	RC-GZA106AF1C	J	AB	10 μF,16V,Electrolytic
C317	VCTYMN1EF223Z	J	AA	0.022 μF,25V	C626	RC-GZA476AF1C	J	AB	47 μF,16V,Electrolytic
C318	VCCSMN1HL4R7C	J	AA	4.7 pF,50V	C627	VCKZPA1HF223Z	J	AA	0.022 μF,50V
C319	VCCCMN1HH180J	J	AA	18 pF (CH),50V	C628	RC-GZA106AF1C	J	AB	10 μF,16V,Electrolytic
C330	VCCUMN1HJ8R2D	J	AA	8.2 pF (UJ),50V	C629	RC-GZA107AF1H	J	AC	100 μF,50V,Electrolytic
C331	VCKZPA1HF473Z	J	AA	0.047 μF,50V	C630	RC-GZW478AF1E	J	AG	4700 μF,25V,Electrolytic
C332,333	VCTYMN1EF223Z	J	AA	0.022 μF,25V	C643,644	RC-QZA224AFYJ	J	AB	0.22 μF,50V,Mylar
C334	VCCUMN1HJ180J	J	AA	18 pF (UJ),50V	C651	VCFYDA1HA104J	J	AB	0.1 μF,50V,Thin Film
C335	VCCCMN1HH180J	J	AA	18 pF (CH),50V	C654	VCFYDA1HA104J	J	AB	0.1 μF,50V,Thin Film
C336	VCKYMN1HB471K	J	AA	470 pF,50V	C656~659	VCFYDA1HA104J	J	AB	0.1 μF,50V,Thin Film
C337	VCTYMN1EF223Z	J	AA	0.022 μF,25V	C701,702	VCCCMN1HH220J	J	AA	22 pF (CH),50V
C342	VCTYMN1EF223Z	J	AA	0.022 μF,25V	C703,704	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C343,344	VCCSMN1HL330J	J	AA	33 pF,50V	C710	VCTYMN1CY103K	J	AA	0.01 μF,16V
C349~351	VCTYMN1EF223Z	J	AA	0.022 μF,25V	C711	RC-GZA335AF1H	J	AB	3.3 μF,50V,Electrolytic
C352	RC-GZA106AF1C	J	AB	10 μF,16V,Electrolytic	C712	VCTYMN1CY103K	J	AA	0.01 μF,16V
C353,354	VCTYMN1EF223Z	J	AA	0.022 μF,25V	C713	RC-GZA106AF1C	J	AB	10 μF,16V,Electrolytic
C355	VCCSMN1HL220J	J	AA	22 pF,50V	C714	VCKYMN1HB471K	J	AA	470 pF,50V
C356	VCKYMN1HB102K	J	AA	0.001 μF,50V	C715	RC-GZA107AF1A	J	AB	100 μF,10V,Electrolytic
C357	RC-GZA225AF1H	J	AB	2.2 μF,50V,Electrolytic	C716	RC-GZA476AF1C	J	AB	47 μF,16V,Electrolytic
C358	RC-GZA105AF1H	J	AB	1 μF,50V,Electrolytic	C717	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C360	VCTYMN1EF223Z	J	AA	0.022 μF,25V	C802	RC-GZA107AF1A	J	AB	100 μF,10V,Electrolytic
C361	VCKZPA1HF223Z	J	AA	0.022 μF,50V	C804	RC-GZA476AF1C	J	AB	47 μF,16V,Electrolytic
C362	RC-GZA335AF1H	J	AB	3.3 μF,50V,Electrolytic	C807	VQYKA1HM224K	J	AB	0.22 μF,50V,Mylar
C363	VCTYMN1EF223Z	J	AA	0.022 μF,25V	C808	VCFYHA1HA334J	J	AC	0.33 μF,50V,Thin Film
C364	RC-GZA106AF1C	J	AB	10 μF,16V,Electrolytic	C809	VCTYMN0JY153M	J	AA	0.015 μF,6.3V
C365	VCTYMN1EF223Z	J	AA	0.022 μF,25V	C810	RC-QZ0026AWZZ	J	AB	0.1 μF,50V,Mylar
C366	VCKYMN1HB102K	J	AA	0.001 μF,50V	C811	RC-GZA226AF1C	J	AB	22 μF,16V,Electrolytic
C367,368	RC-GZA105AF1H	J	AB	1 μF,50V,Electrolytic	C812	RC-GZA106AF1C	J	AB	10 μF,16V,Electrolytic
C369	VCCSMN1HL560J	J	AA	56 pF,50V	C813	VCTYMN1CX222K	J	AA	0.0022 μF,16V
C370~372	RC-GZA105AF1H	J	AB	1 μF,50V,Electrolytic	C820	VCTYMN1CX682K	J	AA	0.0068 μF,16V
C373,374	VCTYPA1CX183K	J	AA	0.018 μF,16V	C821	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C380	RC-GZA105AF1H	J	AB	1 μF,50V,Electrolytic	C822	RC-GZA476AF1C	J	AB	47 μF,16V,Electrolytic
C381	VCCCMN1HH120J	J	AA	12 pF (CH),50V	C823	RC-GZA106AF1C	J	AB	10 μF,16V,Electrolytic
C382	VCCCMN1HH150J	J	AA	15 pF (CH),50V	C824	RC-QZ0023AWZZ	J	AB	0.056 μF,50V,Mylar
C383	VCTYBT1EF223Z	J	AA	0.022 μF,25V	C825	RC-QZ0021AWZZ	J	AB	0.039 μF,50V,Mylar
C384	VCKYBT1HB102K	J	AA	0.001 μF,50V	C826	RC-GZA105AF1H	J	AB	1 μF,50V,Electrolytic
C385	VCTYMN1CY103K	J	AA	0.01 μF,16V	C827	VCKYMN1HB471K	J	AA	470 pF,50V
C386	VCKYMN1HB331K	J	AA	330 pF,50V	C828	RC-QZ0023AWZZ	J	AB	0.056 μF,50V,Mylar
C387	VCTYMN1EF223Z	J	AA	0.022 μF,25V	C829	VCCSMN1HL3R9C	J	AA	3.9 pF,50V
C391	RC-GZA476AF1C	J	AB	47 μF,16V,Electrolytic	C830	VCCSMN1HL470J	J	AA	47 pF,50V
C392	VCKYMN1HB102K	J	AA	0.001 μF,50V	C831	RC-QZ0023AWZZ	J	AB	0.056 μF,50V,Mylar
C393	RC-GZA105AF1H	J	AB	1 μF,50V,Electrolytic	C832	RC-GZA476AF1C	J	AB	47 μF,16V,Electrolytic
C394	RC-GZA476AF1C	J	AB	47 μF,16V,Electrolytic	C833	RC-GZA227AF1A	J	AB	220 μF,10V,Electrolytic
C395	VCTYMN1EF223Z	J	AA	0.022 μF,25V	C834	RC-QZ0023AWZZ	J	AB	0.056 μF,50V,Mylar
C396	RC-GZA107AF1A	J	AB	100 μF,10V,Electrolytic	C841	VCTYMN1CX472K	J	AA	0.0047 μF,16V
C397	VCTYMN1EF223Z	J	AA	0.022 μF,25V	C842,843	VCTYMN1CX332K	J	AA	0.0033 μF,16V
C398	RC-GZA107AF1A	J	AB	100 μF,10V,Electrolytic	C844	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C399	VCKZPA1HF223Z	J	AA	0.022 μF,50V	C845	RC-GZA476AF1C	J	AB	47 μF,16V,Electrolytic
C401~406	RC-GZA105AF1H	J	AB	1 μF,50V,Electrolytic	C846	RC-GZA227AF1A	J	AB	220 μF,10V,Electrolytic
C407,408	VCKYMN1HB331K	J	AA	330 pF,50V	C847	VCKYMN1HB101K	J	AA	100 pF,50V
C411,412	RC-GZA226AF1C	J	AB	22 μF,16V,Electrolytic	C848,849	VCTYMN1CY103K	J	AA	0.01 μF,16V
C413,414	VCKYMN1HB101K	J	AA	100 pF,50V	C850	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C415,416	RC-GZA105AF1H	J	AB	1 μF,50V,Electrolytic	C851	RC-GZA107AF1A	J	AB	100 μF,10V,Electrolytic
C421,422	VQYKA1HM224K	J	AB	0.22 μF,50V,Mylar	C852	RC-QZ0006AWZZ	J	AB	0.0022 μF,50V,Mylar
C423,424	VCTYPA1CX823K	J	AB	0.082 μF,16V	C853	RC-QZ0023AWZZ	J	AB	0.056 μF,50V,Mylar
C425,426	VCTYPA1CX333K	J	AA	0.033 μF,16V	C854	VCCCMN1HH180J	J	AA	18 pF (CH),50V
C427,428	VCTYMN1CY103K	J	AA	0.01 μF,16V	C855	VCCCMN1HH150J	J	AA	15 pF (CH),50V
C433	VCTYMN1CX332K	J	AA	0.0033 μF,16V	C856	VCKYMN1HB271K	J	AA	270 pF,50V
C434	VCTYPA1CX332K	J	AA	0.0033 μF,16V	C857	RC-GZA476AF1C	J	AB	47 μF,16V,Electrolytic
C435,436	RC-GZA107AF1A	J	AB	100 μF,10V,Electrolytic	C858	RC-QZ0023AWZZ	J	AB	0.056 μF,50V,Mylar
C437,438	VCKYMN1HB101K	J	AA	100 pF,50V	C859	RC-GZA107AF1A	J	AB	100 μF,10V,Electrolytic
C439,440	RC-GZA106AF1C	J	AB	10 μF,16V,Electrolytic	C860	RC-QZ0023AWZZ	J	AB	0.056 μF,50V,Mylar
C441,442	RC-GZA106AF1C	J	AB	10 μF,16V,Electrolytic	C861	RC-GZA106AF1C	J	AB	10 μF,16V,Electrolytic
C443	RC-GZA107AF1A	J	AB	100 μF,10V,Electrolytic	C862	RC-GZA337AF1A	J	AB	330 μF,10V,Electrolytic
C444	RC-GZA107AF1E	J	AB	100 μF,25V,Electrolytic	C863	VCTYMN1EF223Z	J	AA	0.022 μF,25V
C445	VCTYMN1EF223Z	J	AA	0.022 μF,25V	C864,865	RC-QZ0018AWZZ	J	AB	0.022 μF,50V,Mylar
C601	RC-GZA336AF1C	J	AB	33 μF,16V,Electrolytic	C871	RC-GZA337AF1A	J	AB	330 μF,10V,Electrolytic

XL-520W/CP-520

NO.	PART CODE	★	PRICE RANK	DESCRIPTION	NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
C881	RC-GZA107AF1A	J	AB	100 μF,10V,Electrolytic	R308	VRD-MN2BD103J	J	AA	10 kohm,1/8W
C883,884	RC-GZA106AF1C	J	AB	10 μF,16V,Electrolytic	R309	VRD-ST2EE821J	J	AA	820 ohms,1/4W
C885,886	VCTYMN1CX222K	J	AA	0.0022 μF,16V	R310	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
C887	VCTYMN1EF223Z	J	AA	0.022 μF,25V	R319	VRD-MN2BD104J	J	AA	100 kohm,1/8W
C901	VCKYMN1HB102K	J	AA	0.001 μF,50V	R321	VRD-ST2EE220J	J	AA	22 ohms,1/4W
C902	RC-GZA335AF1H	J	AB	3.3 μF,50V,Electrolytic	R323	VRD-MN2BD683J	J	AA	68 kohms,1/8W
C903	RC-GZA107AF1E	J	AB	100 μF,25V,Electrolytic	R324	VRD-MN2BD104J	J	AA	100 kohm,1/8W
C904,905	VCKZPA1HF223Z	J	AA	0.022 μF,50V	R336	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
RESISTORS					R350	VRD-MN2BD272J	J	AA	2.7 kohms,1/8W
	VRD-MN2BD000C	J	AA	0 ohm,Jumper,ø1.4x3.5mm,Ivory	R351	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R70A,70B	VRD-MN2BD102J	J	AA	1 kohm,1/8W	R352	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R70C	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W	R353	VRD-MN2BD271J	J	AA	270 ohms,1/8W
R70E	VRD-MN2BD104J	J	AA	100 kohm,1/8W	R355	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R70F	VRD-MN2BD820J	J	AA	82 ohms,1/8W	R356	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R70G	VRD-MN2BD102J	J	AA	1 kohm,1/8W	R357	VRD-MN2BD474J	J	AA	470 kohms,1/8W
R70H,70J	VRD-MN2BD103J	J	AA	10 kohm,1/8W	R358	VRD-MN2BD822J	J	AA	8.2 kohms,1/8W
R70K	VRD-MN2BD121J	J	AA	120 ohms,1/8W	R359	VRD-MN2BD182J	J	AA	1.8 kohms,1/8W
R70L	VRD-MN2BD102J	J	AA	1 kohm,1/8W	R360	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R70M	VRD-MN2BD101J	J	AA	100 ohm,1/8W	R361,362	VRD-MN2BD153J	J	AA	15 kohms,1/8W
△ R70N	VRG-ST2EF100J	J	AB	10 ohm,1/4W,Fusible	R363	VRD-ST2EE332J	J	AA	3.3 kohms,1/4W
R70P	VRD-MN2BD331J	J	AA	330 ohms,1/8W	R364	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R70R	VRD-MN2BD101J	J	AA	100 ohm,1/8W	R365	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R80A~80C	VRD-ST2CD823J	J	AA	82 kohms,1/6W	R371~374	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R80E~80G	VRD-ST2CD823J	J	AA	82 kohms,1/6W	R376	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R101,102	VRD-MN2BD102J	J	AA	1 kohm,1/8W	R377	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R103,104	VRD-MN2BD121J	J	AA	120 ohms,1/8W	R379	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R105,106	VRD-MN2BD154J	J	AA	150 kohms,1/8W	R380	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R107,108	VRD-MN2BD103J	J	AA	10 kohm,1/8W	R381	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R109,110	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W	R382	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R111	VRD-ST2EE102J	J	AA	1 kohm,1/4W	R383	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R112	VRD-MN2BD102J	J	AA	1 kohm,1/8W	R384	VRD-MN2BD123J	J	AA	12 kohms,1/8W
R113,114	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W	R385	VRD-ST2EE562J	J	AA	5.6 kohms,1/4W
R115,116	VRD-MN2BD153J	J	AA	15 kohms,1/8W	R386	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R117,118	VRD-MN2BD223J	J	AA	22 kohms,1/8W	R387	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R119,120	VRD-MN2BD560J	J	AA	56 ohms,1/8W	R391,392	VRD-ST2EE391J	J	AA	390 ohms,1/4W
R121~124	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W	R393	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R125	VRD-MN2BD104J	J	AA	100 kohm,1/8W	R395	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R126	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W	R401~403	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R127,128	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W	R405,406	VRD-MN2BD393J	J	AA	39 kohms,1/8W
R129,130	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W	R407,408	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R131,132	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W	R411,412	VRD-MN2BD153J	J	AA	15 kohms,1/8W
R133	VRD-MN2BD102J	J	AA	1 kohm,1/8W	R413,414	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R134	VRD-MN2BD104J	J	AA	100 kohm,1/8W	R415	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R135	VRD-MN2BD684J	J	AA	680 kohms,1/8W	R416	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R136	VRD-MN2BD103J	J	AA	10 kohm,1/8W	R417	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R137	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W	R418	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R138	VRD-ST2EE331J	J	AA	330 ohms,1/4W	R419	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R139	VRD-ST2EE272J	J	AA	2.7 kohms,1/4W	R420	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R140	VRD-MN2BD103J	J	AA	10 kohm,1/8W	R421	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R141	VRD-ST2EE331J	J	AA	330 ohms,1/4W	R422	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R151	VRD-MN2BD473J	J	AA	47 kohms,1/8W	R479,480	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R152	VRD-MN2BD104J	J	AA	100 kohm,1/8W	R601,602	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
R153,154	VRD-MN2BD103J	J	AA	10 kohm,1/8W	R603,604	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R155	VRD-ST2EE560J	J	AA	56 ohms,1/4W	R605,606	VRD-ST2CD221J	J	AA	220 ohms,1/6W
R156,157	VRD-ST2EE151J	J	AA	150 ohms,1/4W	R607	VRD-ST2CD682J	J	AA	6.8 kohms,1/6W
R159,160	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W	R608	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R201	VRD-ST2CD333J	J	AA	33 kohms,1/6W	R609,610	VRD-ST2EE3R3J	J	AA	3.3 ohms,1/4W
R202	VRD-ST2CD104J	J	AA	100 kohm,1/6W	R613,614	VRD-RT2HD271J	J	AA	270 ohms,1/2W
R203	VRD-ST2CD223J	J	AA	22 kohms,1/6W	R615,616	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R204	VRD-ST2CD152J	J	AA	1.5 kohms,1/6W	R617	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R205	VRD-ST2CD473J	J	AA	47 kohms,1/6W	R619,620	VRD-ST2EE470J	J	AA	47 ohms,1/4W
R206	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W	R621	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R207	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W	R623	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R209	VRD-ST2CD122J	J	AA	1.2 kohms,1/6W	R624	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R210,211	VRD-ST2CD102J	J	AA	1 kohm,1/6W	R625	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R212	VRD-ST2CD103J	J	AA	10 kohm,1/6W	R627	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R213,214	VRD-ST2CD102J	J	AA	1 kohm,1/6W	R628	VRD-ST2EE101J	J	AA	100 ohm,1/4W
R215,216	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W	R629	VRD-ST2EE821J	J	AA	820 ohms,1/4W
R217	VRD-ST2CD103J	J	AA	10 kohm,1/6W	R634	VRD-ST2EE102J	J	AA	1 kohm,1/4W
R219,220	VRD-ST2CD103J	J	AA	10 kohm,1/6W	R651	VRS-VV3LA681J	J	AC	680 kohms,3W,Metal Oxide Film
R223	VRD-ST2EF100J	J	AA	10 ohms,1/4W	R661,662	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R224	VRD-ST2CD102J	J	AA	1 kohm,1/6W	R702A,702B	VRD-MN2BD121J	J	AA	120 ohms,1/8W
R233	VRD-ST2CD101J	J	AA	100 ohm,1/6W	R703A,703B	VRD-MN2BD121J	J	AA	120 ohms,1/8W
R301	VRD-ST2EE220J	J	AA	22 ohms,1/4W	R704A,704B	VRD-MN2BD121J	J	AA	120 ohms,1/8W
R302	VRD-MN2BD104J	J	AA	100 kohm,1/8W	R707	VRD-ST2EE103J	J	AA	10 kohm,1/4W
R303	VRD-MN2BD333J	J	AA	33 kohms,1/8W	R708	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R304	VRD-ST2CD473J	J	AA	47 kohms,1/6W	R709	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W
R305	VRD-MN2BD681J	J	AA	680 ohms,1/8W	R710	VRD-MN2BD272J	J	AA	2.7 kohms,1/8W
R306	VRD-MN2BD100J	J	AA	10 ohm,1/8W	R711	VRD-MN2BD182J	J	AA	1.8 kohms,1/8W
R307	VRD-ST2EE470J	J	AA	47 ohms,1/4W	R712	VRD-ST2EE182J	J	AA	1.8 kohms,1/4W
					R713	VRD-ST2EE103J	J	AA	10 kohm,1/4W
					R717	VRD-ST2EE392J	J	AA	3.9 kohms,1/4W

NO.	PART CODE	★ PRICE RANK	DESCRIPTION
R718	VRD-ST2EE272J	J AA	2.7 kohms, 1/4W
R719	VRD-ST2EE182J	J AA	1.8 kohms, 1/4W
R720	VRD-MN2BD182J	J AA	1.8 kohms, 1/8W
R721,722	VRD-MN2BD103J	J AA	10 kohm, 1/8W
R723~725	VRD-MN2BD473J	J AA	47 kohms, 1/8W
R726	VRD-MN2BD102J	J AA	1 kohm, 1/8W
R727	VRD-MN2BD153J	J AA	15 kohms, 1/8W
R728	VRD-MN2BD102J	J AA	1 kohm, 1/8W
R729	VRD-MN2BD103J	J AA	10 kohm, 1/8W
R730~732	VRD-ST2EE102J	J AA	1 kohm, 1/4W
R733~735	VRD-MN2BD473J	J AA	47 kohms, 1/8W
R736,737	VRD-ST2CD473J	J AA	47 kohms, 1/6W
R738,739	VRD-MN2BD473J	J AA	47 kohms, 1/8W
R741~751	VRD-MN2BD102J	J AA	1 kohm, 1/8W
R753~757	VRD-MN2BD102J	J AA	1 kohm, 1/8W
R759~761	VRD-MN2BD102J	J AA	1 kohm, 1/8W
R764~767	VRD-MN2BD102J	J AA	1 kohm, 1/8W
R768,769	VRD-MN2BD221J	J AA	220 ohms, 1/8W
R770~776	VRD-MN2BD102J	J AA	1 kohm, 1/8W
R777	VRD-MN2BD103J	J AA	10 kohm, 1/8W
R778~781	VRD-MN2BD102J	J AA	1 kohm, 1/8W
R782,783	VRD-MN2BD102J	J AA	1 kohm, 1/8W
R787	VRD-ST2CD473J	J AA	47 kohms, 1/6W
R788	VRD-ST2EE473J	J AA	47 kohms, 1/4W
R789,790	VRD-ST2EE473J	J AA	47 kohms, 1/4W
R793,794	VRD-ST2CD473J	J AA	47 kohms, 1/6W
R798	VRD-MN2BD473J	J AA	47 kohms, 1/8W
R799	VRD-MN2BD222J	J AA	2.2 kohms, 1/8W
R801	VRD-ST2EE220J	J AA	22 ohms, 1/4W
R803	VRD-ST2CD223J	J AA	22 kohms, 1/6W
R804	VRD-MN2BD124J	J AA	120 kohms, 1/8W
R805	VRD-MN2BD184J	J AA	180 kohms, 1/8W
R809	VRD-MN2BD104J	1 AA	100 kohm, 1/8W
R810	VRD-MN2BD222J	J AA	2.2 kohms, 1/8W
R811	VRD-MN2BD273J	J AA	27 kohms, 1/8W
R812	VRD-MN2BD183J	J AA	18 kohms, 1/8W
R813	VRD-MN2BD222J	J AA	2.2 kohms, 1/8W
R814	VRD-MN2BD105J	J AA	1 Mohm, 1/8W
R816	VRD-MN2BD473J	J AA	47 kohms, 1/8W
R817	VRD-MN2BD153J	J AA	15 kohms, 1/8W
R818	VRD-MN2BD180J	J AA	18 ohms, 1/8W
R819	VRD-MN2BD472J	J AA	4.7 kohms, 1/8W
R820	VRD-MN2BD333J	J AA	33 kohms, 1/8W
R821	VRD-MN2BD183J	J AA	18 kohms, 1/8W
R822	VRD-MN2BD331J	J AA	330 ohms, 1/8W
R823	VRD-ST2CD104J	J AA	100 kohm, 1/6W
R825	VRD-MN2BD474J	J AA	470 kohms, 1/8W
R826	VRD-MN2BD224J	J AA	220 kohms, 1/8W
R827	VRD-MN2BD154J	J AA	150 kohms, 1/8W
R828	VRD-ST2CD272J	J AA	2.7 kohms, 1/6W
R829	VRD-MN2BD471J	J AA	470 ohms, 1/8W
R830	VRD-MN2BD224J	J AA	220 kohms, 1/8W
R831	VRD-MN2BD473J	J AA	47 kohms, 1/8W
R832	VRD-MN2BD153J	J AA	15 kohms, 1/8W
R833	VRD-MN2BD822J	J AA	8.2 kohms, 1/8W
R834	VRD-MN2BD684J	J AA	680 kohms, 1/8W
R837	VRD-MN2BD272J	J AA	2.7 kohms, 1/8W
R838	VRD-ST2EE123J	J AA	12 kohms, 1/4W
R841	VRD-MN2BD102J	J AA	1 kohm, 1/8W
R842	VRD-MN2BD103J	J AA	10 kohm, 1/8W
R843	VRD-MN2BD473J	J AA	47 kohms, 1/8W
R844	VRD-MN2BD224J	J AA	220 kohms, 1/8W
R845	VRD-MN2BD225J	J AA	2.2 Mohms, 1/8W
R846	VRD-MN2BD333J	J AA	33 kohms, 1/8W
R851,852	VRD-MN2BD102J	J AA	1 kohm, 1/8W
R866	VRD-ST2EE820J	J AA	82 ohms, 1/4W
R867	VRD-ST2EE100J	J AA	10 ohm, 1/4W
R871,872	VRD-MN2BD103J	J AA	10 kohm, 1/8W
R873	VRD-ST2EE472J	J AA	4.7 kohms, 1/4W
R874	VRD-ST2EE103J	J AA	10 kohm, 1/4W
R875	VRD-MN2BD103J	J AA	10 kohm, 1/8W
R881	VRD-ST2EE221J	J AA	220 ohms, 1/4W
R885,886	VRD-MN2BD472J	J AA	4.7 kohms, 1/8W
R887,888	VRD-MN2BD182J	J AA	1.8 kohms, 1/8W
R901	VRD-ST2EE152J	J AA	1.5 kohms, 1/4W
R902	VRD-MN2BD563J	J AA	56 kohms, 1/8W
R903	VRD-MN2BD332J	J AA	3.3 kohms, 1/8W
R904	VRD-MN2BD391J	J AA	390 ohms, 1/8W
R905	VRD-ST2EE103J	J AA	10 kohm, 1/4W
R906	VRD-ST2EE152J	J AA	1.5 kohms, 1/4W
R907	VRD-ST2EE103J	J AA	10 kohm, 1/4W
R908	VRD-MN2BD473J	J AA	47 kohms, 1/8W

OTHER CIRCUITRY PARTS

NO.	PARTS CODE	★ PRICE RANK	DESCRIPTION
BI651/CNS651	QCNCWN0981AWZZ	J AE	Connector Ass'y, 2-2Pin
BI652/CNS651	QCNCWN0982AWZZ	J AE	Connector Ass'y, 2-2Pin
BI801/CNS801	QCNCWN0975AWZZ	J AH	Connector Ass'y, 8-8Pin
BI802/CNS802	QCNCWN0976AWZZ	J AF	Connector Ass'y, 7-7Pin
BI803/CNS803	QCNCWN0977AWZZ	J AG	Connector Ass'y, 6-6Pin
BI805/CNS805	QCNCWN0980AWZZ	J AL	Connector Ass'y, 3-3Pin
BI901/CNS901	QCNCWN0973AWZZ	J AG	Connector Ass'y, 7-7Pin
CNP101	92LCONE8P53253	J AC	Plug, 8Pin
CNP201	QCNCM010HAWZZ	J AC	Plug, 8Pin
CNP301	92LCONE-2P5268	J AB	Plug, 2Pin
CNP602	QCNCM010VAWZZ	J AD	Plug, 20Pin
CNP603	QCNCM010KAWZZ	J AC	Plug, 10Pin
CNP604	92LCONE8P52007	J AE	Plug, 8Pin
CNP605	92LCONE-3P5267	J AB	Plug, 3Pin
CNP651	92LCONE-2P5267	J AB	Plug, 2Pin
CNP652	92LCONE-2P5267	J AB	Plug, 2Pin
CNP803	92LCONE6P53254	J AC	Plug, 6Pin
CNP805	92LCONE3P53014	J AC	Plug, 3Pin
CNP901	QCNCM932GAFZZ	J AD	Plug, 7Pin
CNS101	QCNCWN0341AWZZ	J AL	Connector Ass'y, 8Pin
CNS201	QCNCW010HAWZZ	J AD	Socket, 8Pin
CNS602	QCNCW010VAWZZ	J AE	Socket, 20Pin
CNS603	QCNCW010KAWZZ	J AD	Plug, 10Pin
△ F651	92LFUSE312E	J AD	Fuse, T3.15A L 250V
△ F652	92LFUSE-T122-E	J AD	Fuse, T1.25AL, 250V
FW601	QCNCWN0974AWZZ	J AD	Flat Wire, 5Pin
FW604	QCNCWN0984AWZZ	J AE	Flat Wire, 8Pin
FW605	QCNCWN1048AWZZ	J AK	Flat Wire, 3Pin
FW701	QCNCWN0979AWZZ	J AD	Flat Wire, 2Pin
FW702	QCNCWN0978AWZZ	J AD	Flat Wire, 2Pin
J601	QJAKM0005AWZZ	J AD	Jack, Headphones
J801	VHPGP1F32T/-1	J AP	Digital Out to MD/DAT, GP1F32T
LCD701	RV-LX0027AWZZ	J AP	LCD
M801	92LMTR1854BASY	J AP	Motor with Gear [Sled]
M802	92LMTR1906CASY	J AS	Motor with Chassis [Spindle]
M901	92LMTR2538AASY	J AS	Motor with Pulley [TAPE]
RX701	VHL21043TE2-1	J AL	Remote Sensor, 21043TE2
SO301	QTANC0103AWZZ	J AD	Antenna Terminal
SO401	QSOCJ0205AWZZ	J AG	Jack, VIDEO/AUX
SO601	QTANA0404AWZZ	J AF	Terminal, Speaker
△ SO651	QSOCA0204AWZZ	J AF	Socket, AC Input
SOL901	RPLU-0002AWZZ	J AH	Solenoid
△ SW651	QSOCE0003AWZZ	J AP	Switch, Slide Type [Voltage Selector]
SW701	QSW-P0004AWZZ	J AE	Switch, Push Type [CD EJECT]
SW702	92LSWICH1401A	J	Switch, Key Type [PLAY]
SW703	92LSWICH1401A	J	Switch, Key Type [VOLUME DOWN]
SW704	92LSWICH1401A	J	Switch, Key Type [VOLUME UP]
SW705	92LSWICH1401A	J	Switch, Key Type [X-BASS/EQUALIZER]
SW706	92LSWICH1401A	J	Switch, Key Type [BAND]
SW707	92LSWICH1401A	J	Switch, Key Type [FUNCTION]
SW708	92LSWICH1401A	J	Switch, Key Type [3D Surround]
SW710	92LSWICH1401A	J	Switch, Key Type [REC PAUSE]
SW711	92LSWICH1401A	J	Switch, Key Type [MEMORY SET]
SW712	92LSWICH1401A	J	Switch, Key Type [PRESET DOWN]
SW713	92LSWICH1401A	J	Switch, Key Type [PRESET UP]
SW714	92LSWICH1401A	J	Switch, Key Type [STOP]
SW718	92LSWICH1401A	J	Switch, Key Type [ON/STAND-BY]
SW801	QSW-F9001AWZZ	J AE	Switch, Leaf Type [Pickup In]
SW901	92LM-1676A	J AC	Switch, Leaf Type [Record Prevention]
SW902	92LM-1658A	J AB	Switch, Leaf Type [Cam]
TP801	92LCONE-3P5267	J AB	Plug, 3Pin [Test Point]

CASSETTE MECHANISM PARTS

101	LCHSM0015AW01	J AK	Main Chassis Ass'y
102	LPLTP0002AWZZ	J AD	Plate, Head
103	NDAIR0005AW01	J AG	Take Up Reel Ass'y
104	NGERH0024AWZZ	J AB	Gear, Supply Reel
105	NROLY0002AWZZ	J AF	Pinch Roller Ass'y
106	NFLYC0002AWZZ	J AG	Flywheel Ass'y
107	MLEVP0024AW01	J AH	Lever, FR Ass'y
108	NGERH0027AWZZ	J AE	Gear, Cam

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NO.	PART CODE	★	PRICE RANK	DESCRIPTION
109	NGERH0028AWZZ	J	AB	Gear,Flywheel
110	NGERH0030AWZZ	J	AE	Gear,Play Idler
111	NGERH0032AWZZ	J	AC	Gear,FF
112	NPLYB0004AWZZ	J	AB	Sensor,Wing
113	MLEVP0026AWZZ	J	AC	Lever,Trigger
114	92LM-LEV1756A	J	AB	Lever,Lock
115	MLEVP0069AWZZ	J	AB	Lever,Eject Obstruct
116	LHLD51001AW01	J	AE	Hold Bearing Ass'y
117	PGIDM0008AWZZ	J	AC	Guide,Cassette
118	MLEVF0008AW01	J	AD	Lever,Idler Ass'y
119	MLEVF0009AW01	J	AE	Lever,Over Strok Ass'y
120	LANGT0026AWFW	J	AC	Bracket,Hold
121	LANGT0027AWFW	J	AD	Bracket,Motor
122	LANGT0033AWFW	J	AB	Bracket,Switch
123	MSPRP0005AWFW	J	AB	Spring,Cassette
124	MSPRC0008AWFJ	J	AB	Spring,Back Tention
126	MSPRC0025AWFJ	J	AB	Spring,Supply Cap
127	92LM-TSPR1756C	J	AB	Spring,Lock Lever
128	MSPRD0033AWFJ	J	AB	Spring,Play Idler Lever
129	MSPRD0034AWFJ	J	AB	Spring,Play Roller
130	MSPRD0036AWFJ	J	AB	Spring,Play Return
131	MSPRD0037AWFJ	J	AB	Spring,Over Strok Lever
132	MSPRD0039AWFJ	J	AB	Spring,FR Lever
133	MSPRD0040AWFJ	J	AB	Spring,Eject Obstruct
134	NBLTK0030AWZZ	J	AC	Belt,Sub
135	NBLTK0010AWZZ	J	AC	Belt,Main
136	MSPRD0045AWFJ	J	AB	Spring,Trigger Lever
137	RHEDH0001AWZZ	J	AM	Head,Record/Playback
138	RHEDB0001AWZZ	J	AG	Head,Erase
139	92LN-BAND1318A	J	AA	Nylon Band,80mm
141	92LM-REL1676B	J	AB	Cap,Supply Reel
501	92L1R8WC4-R5P	J	AA	Washer,ø1.8×ø4×0.5mm
502	92L1R5WC3R8R5P	J	AA	Washer,ø1.5×ø3.8×0.5mm
503	92L2TTS+4BZ	J	AA	Screw,ø2×4mm
504	92L2TTS+5BZ	J	AA	Screw,ø2×5mm
505	92LS2R6S1746A	J	AA	Screw,ø2.6×5mm
506	92L2R3W3R4R25P	J	AA	Washer,ø2.3×ø3.4×0.25mm
507	92L2R2TWO	J	AA	Washer,ø2.2mm
508	LX-BZ0004AWFD	J	AC	Screw,ø2.6mm Lock Lever
509	XHP5D20P05000	J	AA	Screw,ø2×5mm
M901	92LMTR2538AASY	J	AS	Motor with Pulley [TAPE]
SOL901	RPLU-0002AWZZ	J	AH	Solenoid Ass'y
SW901	92LM-SW1676A	J	AC	Switch,Leaf Type [Record Prevention]
SW902	92LM-SW1658A	J	AB	Switch,Leaf Type [Cam]
CD MECHANISM PARTS				
301	NGERH0011AWZZ	J	AC	Gear,Middle
302	NGERH0012AWZZ	J	AC	Gear,Drive
303	MLEVP0010AWZZ	J	AC	Rail,Guide
304	NSFTM0002AWFW	J	AE	Shaft,Guide
305	92LM-CUSN1524A	J	AC	Cushion,Gum
△ 306	92LHPC1MXASY	J	BG	Pickup Unit Ass'y
306- 1	—	—	—	Pickup Unit (Not Replacement Item)
306- 2	NGERR0043AFZZ	J	AC	Gear,Rack
306- 3	MSPRC0961AFZZ	J	AA	Spring,Rack
307	PCOVP1001AWSA	J	AE	Cover,Mechanism
701	XBSSD26P06000	J	AA	Screw,ø2.6×6mm
702	XHBSD20P05000	J	AA	Screw,ø2×5mm
703	XHBSD20P03000	J	AA	Screw,ø2×3mm
704	LX-WZ1070AFZZ	J	AA	Washer,ø1.5×ø3.8×0.25mm
M801	92LMTR1854BASY	J	AP	Motor with Gear [Sled]
M802	92LMTR1906CASY	J	AS	Motor with Chassis [Spindle]
SW801	QSW-F9001AWZZ	J	AE	Switch,Push Type [Pickup In]
CABINET PARTS				
201	92LCAB2570AS1	J	AU	Front Panel Ass'y
201- 1	—	—	—	Front Panel (Not Replacement Item)
201- 2	92LBADGE1692A	J	AC	Badge,SHARP
201- 3	HDECQ0222AWSA	J	AL	Panel,LCD
201- 4	GCOVH1010AWSA	J	AC	Cover,Remote Control Sensor
202	LANGT0042AWFW	J	AC	Bracket,PWB Support
203	92LCUSN1746A	J	AA	Cushion,Leg
204	JKNBZ0414AWSA	J	AG	Knob,Operation
205	MLIFP0003AWZZ	J	AE	Damper,Cassette Holder
206	MSPRD0093AWFJ	J	AB	Spring,Cassette Holder
207	92LPNL2543AS1	J	AM	Cassette Holder Ass'y

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
207- 1	—	—	—	Cassette Holder (Not Replacement Item)
207- 2	HDECQ0258AWSA	J	AF	Panel,Cassette Holder
208	LCHSM0058AWFW	J	AM	Main Chassis
209	92LN-BAND1318A	J	AA	Nylon Band,80mm
210	PCOVW1006AWZZ	J	AD	Cover,PWB
211	92LCAUT1706A1	J	AC	Label,Class-3A Laser
212	92LCAUT1706B	J	AA	Label,Laser
213	GCABB1169AWSA	J		Rear Panel
214	GITAS0037AWSA	J	AH	Side Panel,Left
215	GITAS0038AWSA	J	AH	Side Panel,Right
216	GCABC1164AWSA	J	AL	Top Cabinet
217	PCOV3020AWFW	J	AE	Shield,Main PWB
218	GDORT0012AWSA	J	AG	CD Lid
219	JKNBZ0128AWSB	J	AC	Knob,CD Eject
220	92LLEV1651A	J	AB	Lever,CD Eject Knob
221	MLIFP0003AWZZ	J	AE	Damper,CD Lid
222	MSPRD0098AWFJ	J	AD	Spring,CD Lid
223	92LMAG2538AS1	J	AL	Stabilizer Ass'y
223- 1	—	—	—	Stabilizer (Not Replacement Item)
223- 2	92LCUSN1651A	J	AC	Cushion,Stabilizer
223- 3	PMAGF0002AWZZ	J	AE	Magnet
224	PRDAR0083AWFW1J	J	AG	Heat Sink
225	LHLDZ1155AWZZ1	J	AD	Holder,LCD
226	LHLDZ1157AWZZ	J	AD	Holder,LED
227	PSHEP0016AWZZ	J	AD	Sheet,LCD
229	TSPC-0462AWZZ	J		Label,Specifications [Except for Taiwan]
229	TSPC-0463AWZZ	J		Label,Specifications [For Taiwan Only]
△ 230	QFSDH0001AWZZ	J	AB	Holder,Fuse
232	PCOVP1004AWSA	J	AG	Cover,Heat Sink
237	PRDAR0082AWFW	J	AK	Heat Sink
238	PSPAI0013AWZZ	J	AB	Fiber Washer
239	92LRDAT-1468B	J	AE	Heat Sink,Sub
241	GCOVD1003AWSB	J	AD	Cover,Digital Out to MD/DAT
243	LHLDZ1167AWZZ	J	AD	Holder,LED,SRS
244	92LLABL1204C	J	AA	Label,Made in Malaysia [For Australia/New Zealand Only]
244	TLABB0001AWZZ	J	AB	Label,SC Japan [Except For Australia/ New Zealand]
246	LANGF0030AWFW	J	AD	Bracket,Heat Sink Support
601	LX-JZ0010AFFD	J	AA	Screw,ø3×10mm
602	XESSD30P10000	J	AA	Screw,ø3×10mm
603	XHBSD40P06000	J	AA	Screw,ø4×6mm
604	XEBSD30P10000	J	AA	Screw,ø3×10mm
605	XJBSD30P10000	J	AA	Screw,ø3×10mm
606	XESSF30P12000	J	AA	Screw,ø3×12mm
607	XJBSEF30P10000	J	AA	Screw,ø3×10mm
608	LX-EZ0005AWFD	J	AA	Screw,Special
610	XJBSD30P08000	J	AA	Screw,ø3×8mm
612	XEBSEF30P08000	J	AA	Screw,ø3×8mm
616	XJBSEF30P08000	J	AA	Screw,ø3×8mm
ACCESSORIES/PACKING PARTS				
△	QACCB0004AW00	J	BB	AC Power Supply Cord [For Hong Kong Only]
△	QACCE0005AW00	J	AM	AC Power Supply Cord [Except for Taiwan/Saudi Arabia/Hong Kong/Australia/ New Zealand]
△	QACCL0002AW00	J	AN	AC Power Supply Cord [For Australia/New Zealand Only]
	QANTL0005AWZZ	J	AG	AM Loop Antenna
	SPAKA0146AWZZ	J	AL	Packing Add.
	SPAKC0564AWZZ	J	AQ	Packing Case
	SSAKH0014AWZZ	J	AB	Polyethylene Bag,Unit
	TCAUZ0025AWZZ	J		Caution Sheet [For Taiwan Only]
	TINSZ0250AWZZ	J		Operation Manual
	TINSZ0284AWZZ	J	AP	Caution,Span Select
	TLABE0192AWZZ	J	AB	Label,Bar Code
	TLABM0042AWZZ	J	AC	Label,Feature
	92LBAG1460C1	J	AB	Polyethylene Bag,Accessories
	92LBAG1658B	J	AA	Polyethylene Bag,AC Power Supply Cord
	92LBAG760C	J	AA	Polyethylene Bag,AC Plug Adaptor [For Saudi Arabia Only]

NO.	PART CODE	★ PRICE RANK	DESCRIPTION
△	92LCORD1652A	J	AC Power Supply Cord[For Taiwan Only]
△	92LCORD577B	J AM	AC Power Supply Cord [For Saudi Arabia Only]
	92LF-ANT1535A	J AF	FM Antenna
	92LG-CARD1266E1	J AB	Warranty Card [Australia/New Zealand Only]
	92LPLUG027	J AD	AC Plug Adaptor [For Saudi Arabia Only]
	92LPLUG155A	J AG	AC Plug Adaptor [Except for Saudi Arabia]
	RRMCG0107AWSA	J AX	Remote Control
	GFTAB1017AWSA	J	Lid,Remote Control

P.W.B. ASSEMBLY (Not Replacement Item)

PWB-A1~6	92LPWB2570MANS	J	—	Main/CD Servo/Display/LED/ Headphones/CD Lid Switch (Combined Ass'y)
PWB-B1,2	92LPWB2570PWRS	J	—	Power Amp./Power Supply (Combined Ass'y)
PWB-C	QPWBF0107AWZZ	J	AD	Tape Mechanism (PWB Only)
PWB-D	QPWBF0027AWZZ	J	AD	CD Motor (PWB Only)

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SPEAKER BOX PARTS

701	92L121-0107	J	AX	Net Frame Ass'y
702	92L051-0039	J	AY	Speaker Box,Wooden
703	92L316-0037	J	AG	Duct Pipe
704	92L372-0049	J	AB	Screw,ø4×12mm
705	92L291-0053	J	AG	Speaker Cord
706	92L351-0205	J	AD	Label,Specifications
SP1,2	VSP0012PBE54A	J	BA	Woofer
SP3,4	92L-261-0002	J		Tweeter

ACCESSORIES/PACKING PARTS

92L411-0019	J	AB	Polyethylene Bag,Speaker
92L412-0087	J	AR	Packing Add.,Speaker

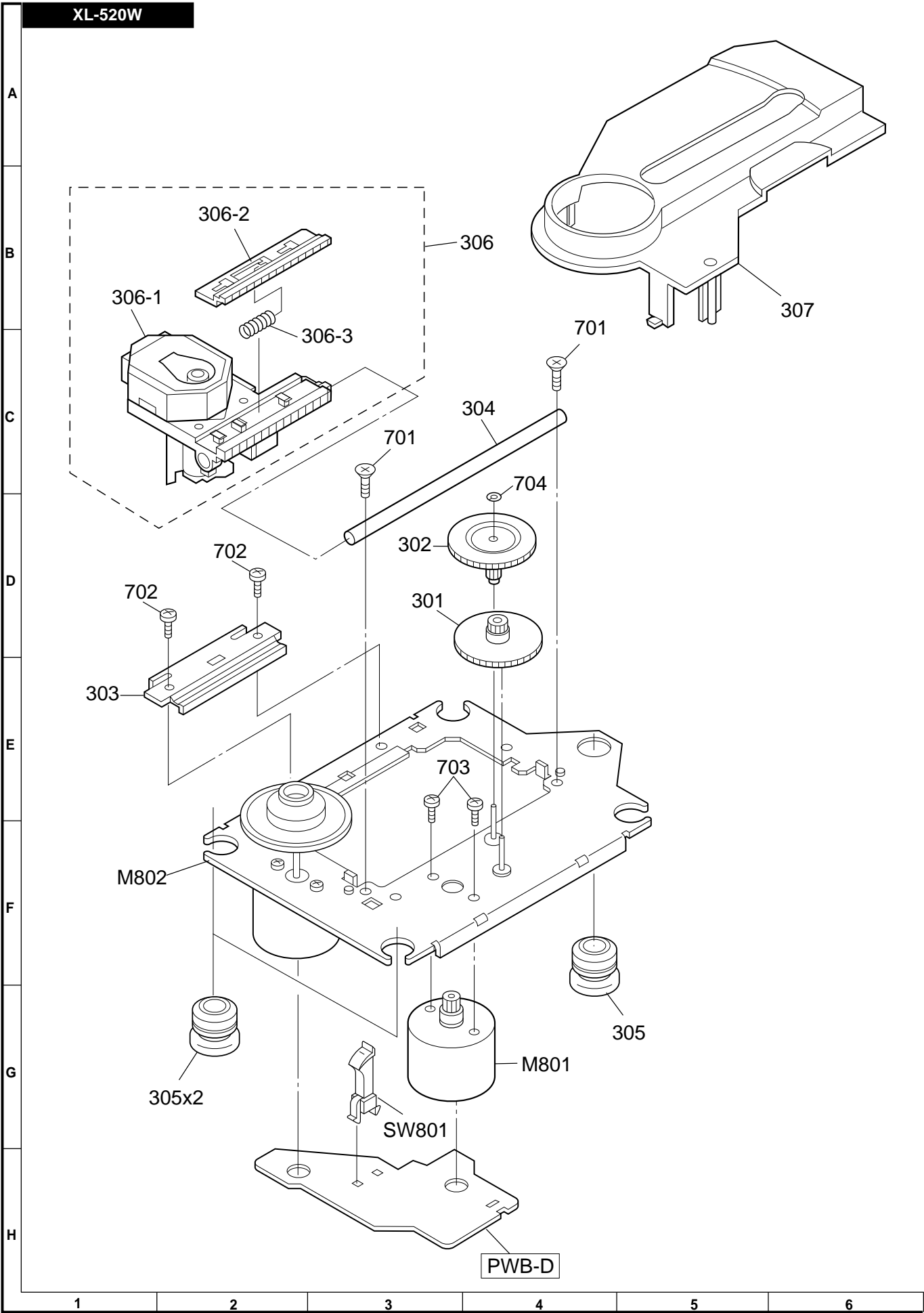


Figure 7 CD MECHANISM EXPLODED VIEW

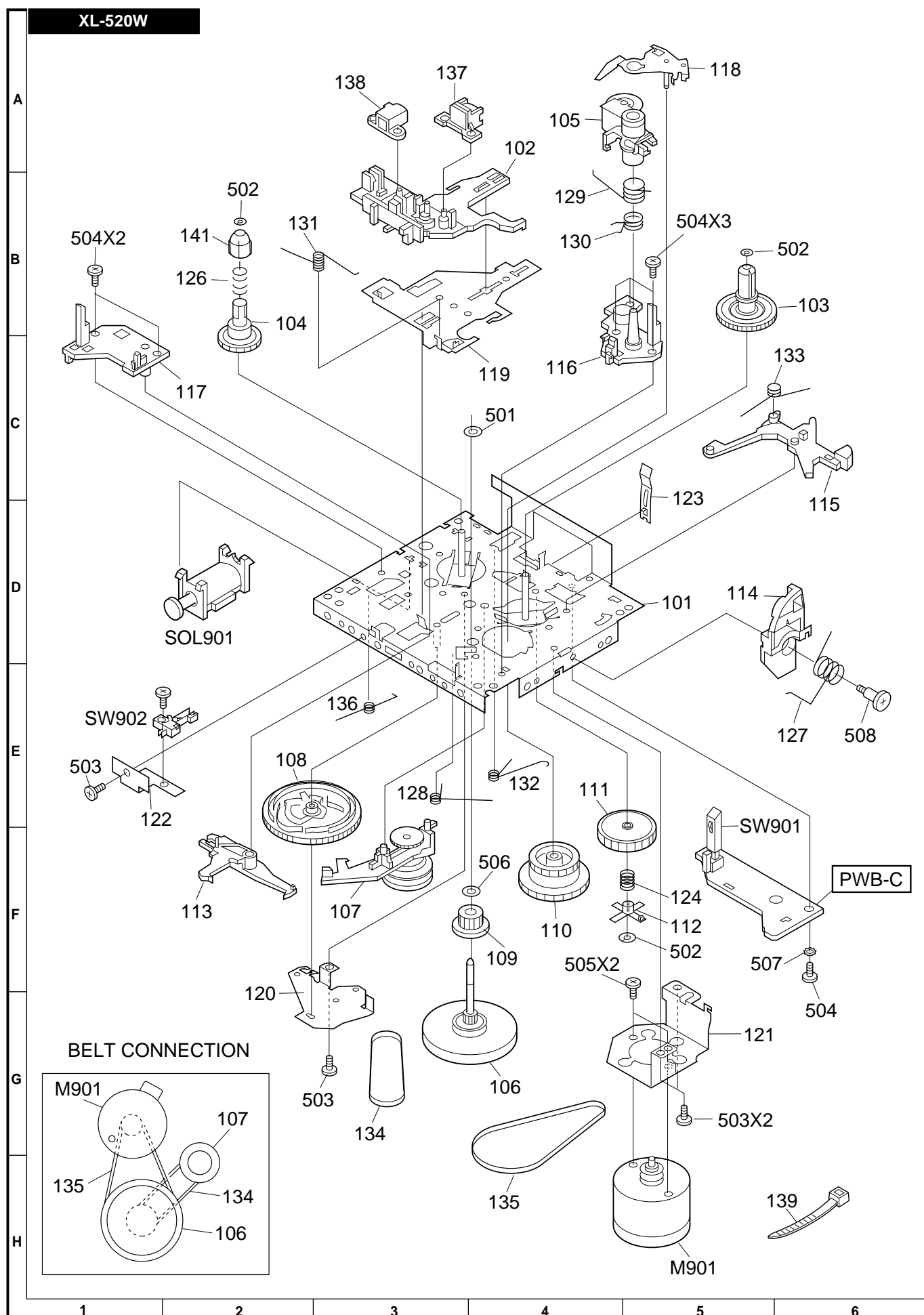


Figure 8 TAPE MECHANISM EXPLODED VIEW



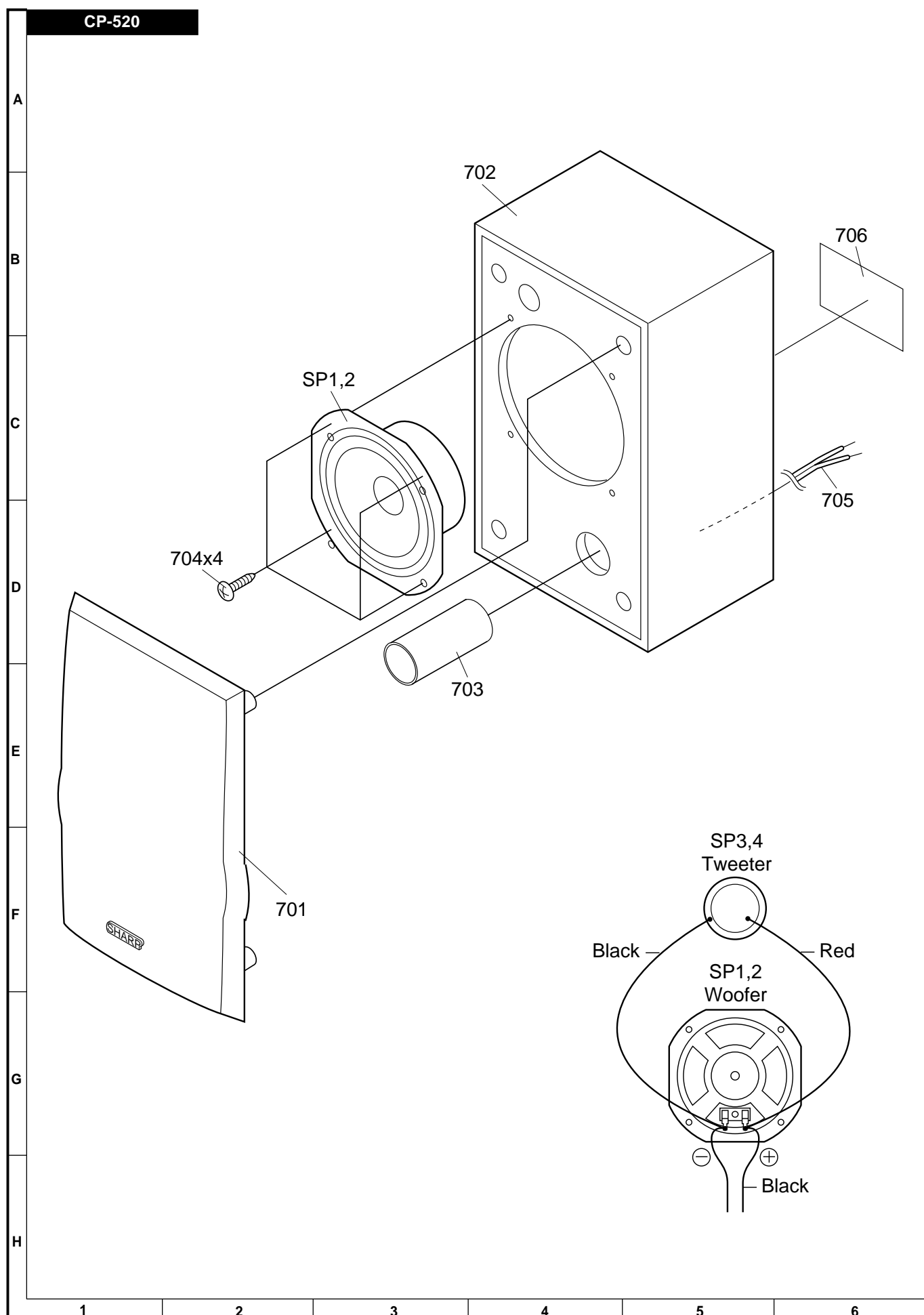


Figure 10 SPEAKER EXPLODED VIEW

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— M E M O —

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